

Executive Summary

The 2006 TRI data represents the 20th year of data collection from facilities for distribution to the public, and the TRI program continues to fulfill its goal of providing chemical use, release, and management information to the public. The increased attention given to releases and management of chemicals through the TRI reporting requirements continues to drive an increase in knowledge about the releases.

For 2006, on-site releases reported in Delaware show an increase, but the increase is largely driven by an increase in reporting accuracy from new test data at one facility. Overall, results from the 2006 TRI data are mixed:

- The largest change in reported on-site release in 2006 is the reported increase in the nitrate compounds released to water from the Premcor Delaware City refinery, which was reported as 2.5 million pounds more than the 2005 amount, primarily due to more accurate accounting for the release of this chemical. This was not related to specific changes in their production of petrochemicals, but rather to more accurate reporting of this TRI compound. Our Division of Water Resources is working with the refinery to develop a plan for reducing these releases. Discounting the change in this report, total on-site releases would have increased only 224,000 pounds for 2006.
- The total amount reported released to on-site air decreased by 129,000 pounds for 2006, including the hydrochloric acid report from the Indian River Power Plant, decreasing 200,000 pounds (7%) for 2006.
- The total amount released to on-site land increased by 51,000 pounds, the result of increases in the reported amounts sent to on-site landfills at the Indian River Power Plant and INVISTA facilities.
- The trend for on-site release of carcinogens continues its downward trend.
 - Reports of vinyl chloride released to air fell 33,000 pounds, 46% less than in 2005.
- The trend for on-site release of Persistent bioaccumulative toxins (PBT's) is mixed with some decreases and increases
 - Reports of elemental mercury released to air fell to 44 pounds in 2006, down 82% since 2005.
 - Reports of lead compounds released to land increased to 3,771 pounds, up 14% for 2006.

In summary, virtually all of this year's increase in the total on-site release amount was the result of a change to a more accurate reporting method, not a change in release to the environment.

Introduction

What is the Toxics Release Inventory?

The Toxics Release Inventory, or TRI, is a publicly available data set containing information reported annually for toxic chemicals manufactured, processed, or otherwise used by certain facilities in Delaware and throughout the United States. Annually, these facilities report releases and waste management information for covered chemicals. The reportable list of toxic chemicals for 2006 included 581 individual chemicals and 30 chemical categories. TRI was established in 1986 under Title III, Section 313, of the Federal Superfund Amendments and Reauthorization Act (SARA 313) to provide information to the public about the presence and release of toxic chemicals in their communities. Title III is also known as the Emergency Planning and Community Right-to-Know Act (EPCRA). See Appendix A for more information.

Covered facilities report TRI information to the U.S. Environmental Protection Agency (EPA) and to the state in which the facility is located. In Delaware, the EPCRA Reporting Program within the Department of Natural Resources and Environmental Control (DNREC) receives and compiles TRI data from facilities located within the State. The EPCRA Reporting Program maintains a database that is updated as new reports and revisions to old reports are received. The database currently contains twenty years of reported data. Most releases reported under TRI are also regulated through Federal and/or State permits.

This report contains detail from every 2006 TRI report and report revision from Delaware facilities filed with and received by DNREC as of November 1, 2007. Facilities must submit these reports to DNREC and EPA by July 1 of each year. Several types of analyses are presented in this report based on this data and data from prior years.

A second, less detailed report that provides a summary of the data presented here is also available. See [Access to TRI Files](#) on page 62 for details.

Reporting Requirements

A facility is required to submit a report for a listed toxic chemical if the facility meets all of the following criteria:

1. Employs the equivalent of 10 or more full-time employees,
2. Is a covered industry, or is a federal facility (See Table 1 below for a list of reporting industries), and
3. Manufactures or processes more than 25,000 pounds, or otherwise uses more than 10,000 pounds, of the listed toxic chemical during the course of the calendar year. Limits for specific chemicals known as PBTs (Persistent Bioaccumulative Toxics) are lower (see Table 7 on page 36).

**TABLE 1
COVERED INDUSTRIES**

PRIMARY NAICS CODES	INDUSTRY
211	Oil and Gas Extraction
212	Mining
221	Utilities
311	Food Manufacturing
313	Textile Products Mfg.
324	Petroleum and Coal Products Mfg.
325	Chemical Manufacturing
326	Plastics and Rubber Manufacturing
331	Primary Metal Manufacturing
332	Fabricated Metal Product Mfg.
334	Computer and Electronic Product Mfg.
335	Electrical Equipment Mfg.
336	Transportation Equipment Mfg.
337	Furniture Manufacturing
339	Misc. Manufacturing
424	Wholesalers, Non-Durable Goods
454	Non-Store Retailers
928	National Security

Note that from time to time, the EPA proposes changes in reporting requirements. It gives agencies, reporting facilities, and other interested parties time to comment on these changes prior to making a final decision about the proposed change. See page 4 for more details.

Facilities that meet the criteria for reporting must submit one report for each listed toxic chemical manufactured, processed, or otherwise used above threshold quantities. The reports cover activities during the previous calendar year.

It is important to note that a facility may need to report even if it has no releases of toxic chemicals, because reporting is based on the amount manufactured, processed, or otherwise used, and not the amount released.

Table 1 provides a list of covered industries reporting to the Delaware TRI program for 2006 along with corresponding three

primary digits of the North American Industrial Classification System (NAICS) Codes. The 6-digit NAICS codes are used to identify the type of activities performed at a facility. Each industry sector represented by facilities reporting in Delaware for 2006 is described in Table 5 on page 15. The NAICS codes are being used in TRI for the first time in 2006 to provide more discrimination between the various industry sectors reporting to TRI. They do not correspond directly to the Standard Industrial Classification (SIC) codes that were in use since the beginning of the program. Because of the diversity of industries reporting to TRI and the differences in code definitions, all the facilities that were in a particular SIC code may not remain together in a NAICS code.

The standard Form R report (see Appendix M for Form) contains general facility information and data about on-site releases, off-site transfers, and on-site waste management activities. In lieu of Form R, the optional short form (Form A, Appendix N) may be used, provided certain criteria are met. Form A, initiated in the 1997 reporting year, is a two-page report that provides facility information (essentially the same as Form R) and identification of the chemical, but does not provide any release, transfer, or waste management data. After a facility determines that it must report on a given chemical, the facility is eligible to use Form A if:

For Persistent Bioaccumulative Toxic (PBT) Chemicals except dioxins:

1. The total annual release amount is zero, and
2. The annual sum of the energy recovery, recycle, and treatment amounts managed on- and off-site (PBT Reportable Amount) does not exceed 500 pounds, and
3. The total annual amount of the chemical manufactured, processed, or otherwise used does not exceed 1,000,000 pounds.
4. Dioxins and dioxin-like compounds in any amount may not be reported on Form A.

For non-PBT chemicals:

1. The total annual reportable amount (including the sum of on- and off-site releases, disposal, treatment, recovery for recycle or energy) is less than 5,000 pounds, and
2. The total amount of on-site releases is less than 2,000 pounds, and
3. The total annual amount of the chemical manufactured, processed, or otherwise used does not exceed 1,000,000 pounds.

Limitations of TRI Data

The user of TRI data should be aware of its limitations in order to interpret its significance accurately.

- **NOT ALL FACILITIES ARE REQUIRED TO REPORT.** A relatively small number of facilities in Delaware are required to report under TRI, based on the criteria listed on pages 2 - 3. TRI facilities are primarily industrial/manufacturing facilities and facilities report releases and other waste management activity to TRI. TRI does not account for amounts of hazardous material stored at facilities. The DNREC program addressing inventories of material stored on site, the Hazardous Chemical Reporting program known as "Tier II" (also administered under EPCRA), includes a much greater number of facilities. Facilities report amount the location of chemicals stored on-site to Tier II, but not releases. For further information, see ***Hazardous Chemical Reporting*** in Appendix A.
- **OTHER SOURCES NOT COVERED UNDER TRI ALSO RELEASE TOXIC CHEMICALS.** Other significant sources of pollution include small businesses, motor vehicles, and agricultural operations, as examples. For some chemicals, their use as consumer products is a significant source of releases.

- **FACILITIES ARE REQUIRED TO BASE TRI DATA ON MEASUREMENTS AND MONITORING DATA IF THESE ARE AVAILABLE AT THE FACILITY.** If such data is not available, quantities may be estimated based on published emission factors, mass balance calculations, or good engineering judgment. Additional monitoring equipment and measurements are not required. For 2006, 18% of the reports representing 46% of reported on-site release amounts were estimated using monitoring data, with the balance being split between emission factors, mass balance calculations, and other methods.
- **THE DATA ESTIMATION METHODS MAY CHANGE OR VARY.** The methods of estimating, analytical methodology, or basis of calculating data used by different facilities, or even the same facility over time, may vary, and may result in significant changes in reporting while the actual release may remain relatively unchanged. DNREC performs cross-checks of the data with other information sources to verify its accuracy and contacts facilities concerning apparent discrepancies.
- **REVISIONS TO FORM R MAY OCCUR AT ANY TIME.** These revisions sometimes involve significant changes for data previously reported by a facility.
- **THE DATA DOES NOT INDICATE AMOUNT OF HUMAN EXPOSURE.** An important consideration to keep in mind is that TRI does not provide an indication of potential exposure to the reported releases and cannot be used by itself to determine the impact on public health. The chemical's release rate, toxicity, and environmental fate, as well as local weather and wind direction and the proximity of nearby communities to the release must be considered when assessing exposures. Small releases of highly toxic chemicals may pose greater risks than large releases of less toxic chemicals. The potential for exposure increases the longer the chemical remains unchanged in the environment. Some chemicals may quickly break down into less toxic forms, while others may accumulate in the environment, becoming a potential source of long-term exposure. The chemical exposure of a population depends on the environmental media (air, water, land) into which the chemical is released. The media also affects the type of exposure possible, such as inhalation, dermal exposure, or ingestion.

Despite these limitations, TRI serves as a valuable screening tool to identify areas of concern that may require further investigation.

Recent Developments in TRI Reporting

The TRI reporting requirements change as EPA seeks to improve the program through changes to the list of reportable chemicals and through program expansions. Because of these changes, considerable caution must be exercised when comparing TRI data from previous years. Some of the data presented later in this report will be adjusted for changes that have been made in order to present the data on a more constant reporting basis from year to year. Notations will be made to indicate which data is presented with these adjustments.

- **Form A Threshold Change for the 2006 Reporting Year**

EPA has enacted a change to the TRI Form A reporting requirements. See pages 2 and 3 for a description of Form A and Form R, and Appendices M and N for copies of the reporting forms. The change increased the Form A total non-PBT waste amount reporting threshold to 5,000 pounds, up from the previous 500 pounds, and no more than 2,000 pounds may be on-site releases. It also allows reporting PBTs, except dioxins, on Form A, if no release or disposal activities occur for the chemical, but at the 500 pound total waste amount threshold. All chemicals reported on Form A also are required to meet the current 1,000,000 pound manufactured, processed, or otherwise used threshold. Because of the potential loss of data associated with the conversion of current Form R reports to Form A reports, DNREC opposed the original proposal and continues to oppose this new rule, and we have been working with the reporting

facilities to emphasize the importance of continuing to report on Form R. We have received the first reports under this new rule and saw that five facilities had an increase of 12 total reports while seven facilities had a decrease of 20 total reports.

- **Alternate Year Reporting Proposed Change**

EPA had indicated that they would propose some form of alternate year reporting. However, bowing to the pressure of public opinion, EPA has retracted this proposal.

- **SIC/NAICS**

Starting in the 2006 reporting year, four-digit facility SIC (Standard Industrial Classification) codes were phased out and replaced with six-digit NAICS (North American Industry Classification System) codes. Facilities should not be added or removed from TRI reporting because of this change. See page 2 for a table listing of the primary NAICS codes reported to the Delaware TRI program for 2006, and additional discussion about NAICS.

- **Chemical List Changes**

For reporting 1995 and beyond, EPA significantly expanded the list of chemicals. For reporting year 2000 and beyond, EPA established substantially lower reporting thresholds for 15 chemicals and 2 chemical categories that are highly persistent and bioaccumulative in the environment (PBTs). See page 36 for PBT data. In 2004, EPA removed methyl ethyl ketone (MEK) from the list of reportable chemicals, and naphthalene, already on the TRI list, was also added to the list of carcinogens.

- **Industry Expansion**

Beginning with the 1998 reporting year, EPA added seven industries to the list of facilities covered under TRI. Prior to the 1998 reporting year, only manufacturers (SIC codes 2000-3999) and federal facilities were required to report (See Table 1 on page 2). EPA included the seven new industries because facilities within these industries manufacture and use substantial quantities of TRI chemicals and engage in activities related to those conducted by manufacturing facilities. The greatest impact to Delaware is the Electric Utilities (4931). The industry expansion significantly increased the amount of reported releases. This did not necessarily represent an increase in toxic releases in Delaware, but rather provided additional information to the public. Some of the data presented later in this report will be adjusted for these changes in order to present the data on a more consistent reporting basis from year to year.

- **Dioxin and Dioxin-Like Compounds**

On May 10, 2007, the Toxics Release Inventory Program issued a final rule expanding reporting requirements for the dioxin and dioxin-like compounds category. There are seventeen distinct members of this chemical category listed under TRI. The final rule requires that, in addition to the total grams released for the entire category, facilities must report the quantity for each individual member on a new Form R-D. EPA will then use the individual mass quantity data to calculate Toxic Equivalent Quantity (TEQ) values that will be made available to the public along with the mass data. The reporting requirements of the final rule apply to the reporting year beginning January 1, 2008, (for which reports are due July 1, 2009), and to subsequent reporting years. EPA has delayed the implementation of the reporting requirements of this final rule in order to provide sufficient time and resources to make the required changes to the State and federal TRI databases and the TRI reporting software, and to make sure the affected facilities are aware of the new reporting requirements. The additional time to prepare for the reporting changes should also promote more accurate and consistent reporting.

2006 Data Summary

TABLE 2
2006 TRI DATA SUMMARY
(IN POUNDS)

	2006
No. of Facilities	70
No. of Form As	45
No. of Form Rs	286
No. of Chemicals	100
On-site Releases	
Air	6,343,159
Water	4,023,844
Land	804,512
Total On-Site Releases	11,171,515
Off-site Transfers	
POTW's	1,421,321
Recycle	8,425,272
Energy Recovery	4,200,803
Treatment	237,073
Disposal	4,739,121
Total Off-Site Transfers	19,023,590
On-site Waste Mgmt.	
Recycle	10,594,593
Energy Recovery	17,937,031
Treatment	39,516,068
Total On-Site Mgmt.	68,047,692
Total Waste	98,242,798

Statewide totals of reported 2006 TRI on-site releases, off-site transfers, and wastes managed on-site are shown in Table 2. On-site releases were higher by 32% compared to 2005. Increased accuracy in reporting the data (water discharge monitoring) accounts for most of the increase, while changes in raw materials, pollution controls, and production levels at other facilities account for both decreases and increases. A total of 70 facilities submitted 331 reports on 100 different chemicals. Of the 331 reports, 45 were submitted using Form A. Ammonia, benzo (g,h,i) perylene, polycyclic aromatic compounds, methanol, and zinc, lead, and manganese compounds all had greater than 10 reports. Releases to air, led by acid gases, constitute the largest portion of the total on-site releases, while nitrate compound releases to water made up the largest increase.

Types of Data

Table 2 lists all the categories of data reported to Delaware and EPA under the TRI program. Within the reports received from facilities, the data is broken down into additional sub-categories. For ease of presentation in this report, the data has been grouped into these categories as described below.

On-Site Releases: There are four categories, but one of these, **underground injection** of TRI chemical waste to wells, is not permitted in Delaware. On-site releases in Delaware are to **air**, **water**, or **land**. The **air** release category includes stack air collected by mechanical means

such as vents, ducts, or pipes, and fugitive air escaping collection, including equipment leaks and evaporation, and is released into the general atmosphere. **Water** releases are to water bodies, including streams, rivers, lakes, bays, or oceans. This includes releases from contained sources, such as industrial process outflow or open trenches. Water releases containing TRI-reportable chemicals in runoff and storm water runoff are also reportable. **Land** releases are to (1) RCRA landfills, in which wastes are buried, (2) surface impoundments, which are uncovered holding areas used to volatilize and/or settle waste materials, (3) other land disposal such as waste piles or releases to land such as spills or leaks, (4) land application/treatment in which waste containing a listed chemical is applied to or incorporated into soil, and (5) other non-RCRA landfills.

Off-site Transfers: Off-site transfers include transfer of chemical waste to **POTWs** (Publicly owned wastewater treatment plants), **recycle** operations (5 types), **energy recovery** operations (2 types), **treatment** operations (6 types), and **disposal** (14 types). The receiving facilities are separate from the facility generating the waste. This total of 27 sub-categories is provided for the purpose of classifying the types of final off-site waste management undertaken for each chemical.

On-site Waste Management: Waste management operations at the facility generating the waste are categorized to include **recycle**, **energy recovery**, and **treatment**.

On-Site Releases

On-site TRI releases are emissions from a facility to the environment because of normal operations, including emissions to the air, discharges to surface water, disposal onto or into the ground, and under-ground injection. Under-ground injection is not an approved method of TRI or hazardous waste disposal in Delaware, and thus has not been reported by any facility in Delaware since TRI reporting began. Total TRI-reported on-site releases to air, water, and land in 2006 made up less than 12% of all TRI-reported waste amounts.

FIGURE 1
2006 REPORTED
ON SITE RELEASES

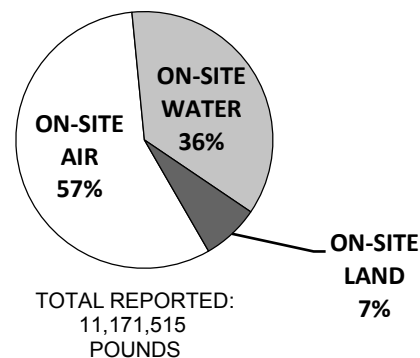
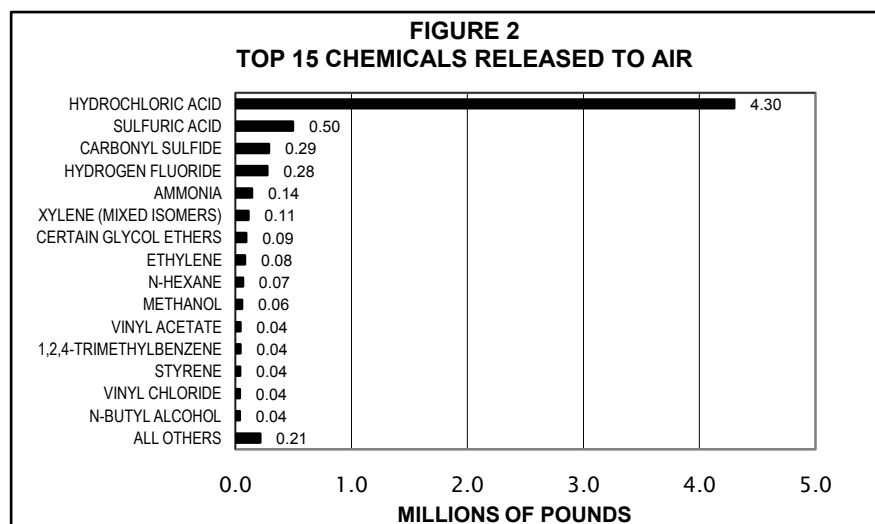


Figure 1 shows the on-site releases reported in the State. A large portion, 57% of the total on-site release, is to air. Additional analysis of on-site releases is presented in Figures 2, 3, and 4, showing the top 15 chemicals released to air, water, and land. Additional detail about on-site releases can be found in Appendices C, E, F, and H.

Releases to Air

Figure 2 provides an illustration of the relative release of the top 15 chemicals compared to the remaining 85 chemicals reported as released in 2006 to the air. As in all the years following the inclusion of the power generating facilities, acid gases top the list. Specifically, hydrochloric and sulfuric acid aerosols (gases) and hydrogen fluoride are released from power generating facilities



located in all three counties. These three chemicals comprise 80% of all Delaware-reported TRI on-site air releases. Two facilities reported carbonyl sulfide, which accounted for 4.6% of all releases to air. DuPont Edgemoor was the primary reporter of this chemical. Eleven facilities reported ammonia, which accounted for 2.3% of all on-site air releases. The Indian River power plant was the primary reporter for ammonia. Ammonia is released from petrochemical, food processing, and chemical facilities. It is used in refrigeration systems and is a by-product of air pollution control activities, primarily at electric generating facilities. Xylene and certain glycol ethers are primarily used as solvents in paints for the automobile manufacturing industry. The DaimlerChrysler and General Motors automobile assembly

facilities accounted for most of these releases. Seven facilities reported xylene, (1.8% of total on-site releases to air), and seven facilities reported on certain glycol ethers (1.5% of on-site releases to air). Two facilities reported on ethylene, (1.3% of total release to air), and 92% of this release was from the portion of the Sunoco Marcus Hook refinery that is in Delaware.

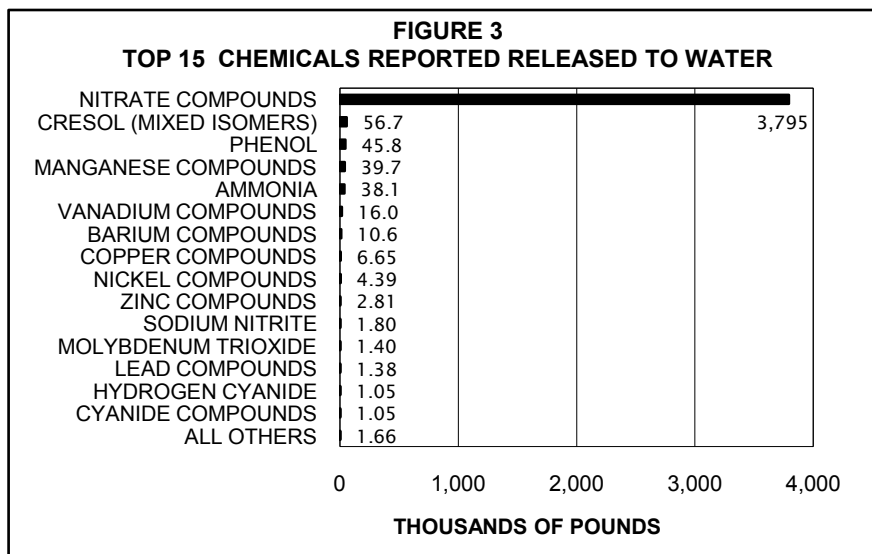
Releases to Water

As can be seen in Figure 1 on page 7, releases to water were lower than releases to air. On-site releases to water make up 36% of the total on-site releases, compared to 57% for air.

TABLE 3 TRI CHEMICALS REPORTED RELEASED TO WATER BY WATERSHED			
WATER BODY	NO. OF FACILITIES	NO. OF REPORTS	RELEASE (IN POUNDS)
DELAWARE RIVER	9	76	2,932,700
DRAWYER CREEK TRIBUTARY	1	1	29
ISLAND CREEK	1	11	3,720
MCKEE RUN	0	0	0
NAAMANS CREEK	1	6	338
NANTICOKE RIVER	1	12	382,050
RED LION CREEK	1	1	7
SAVANNAH DITCH	1	2	705,000
STATE TOTAL	15	109	4,023,844

Table 3 shows the amount of TRI chemicals released to each water body that received a TRI chemical. Figure 3 shows the relative relationship of the top 15 TRI chemicals to the 18 other chemicals reported as released to water. This clearly shows the influence that nitrate compounds have on the total. The two largest reporters of nitrate compounds, Premcor and Perdue Georgetown, reported increases of 2.5 million and 285,000 pounds, respectively. These

were part of the releases to the Delaware River and the Savannah Ditch. More details of these releases can be found in their facility profiles on pages 18 and 21. Figure 3 shows that nitrate compounds were the top chemical released (94% of the total release to water), followed by cresol (mixed isomers) (1.4%), phenol (1.1%), and manganese compounds (1.0%). The remaining



chemicals released to water were each less than 1.0% of total releases to water. The biological treatment of nitrogen-containing materials such as ammonia and animal waste is responsible for the formation of nitrate compounds. Premcor reported 2,745,000 pounds released to water. Premcor changed its sampling method for 2006 by taking more frequent samples during normal periods of operation. This change led to the discovery that the previous method was not as accurate, so the new, more accurate amounts were reported. Perdue Georgetown was the second largest reporter of nitrate compounds at 670,000 pounds, and INVISTA reported 380,000 pounds. Cresols and Phenol are products of petroleum refining and were released to water only by Premcor. Manganese compounds are formed from ore refining and from impurities in coal and oil. DuPont Edgemoor reported 93% of the manganese compounds released to water, with Premcor contributing 5%. Ammonia is the by-

product of pollution control activities and waste treatment. Perdue Georgetown reported 92% of the ammonia releases to water, with the remaining 8% coming from Premcor. The metallic compounds are generally products of fuel combustion and ore refining. The DuPont Edgemoor, Edgemoor/Hay Road Power Plants, Indian River Power Plant, and Premcor are the primary facilities releasing these compounds to water.

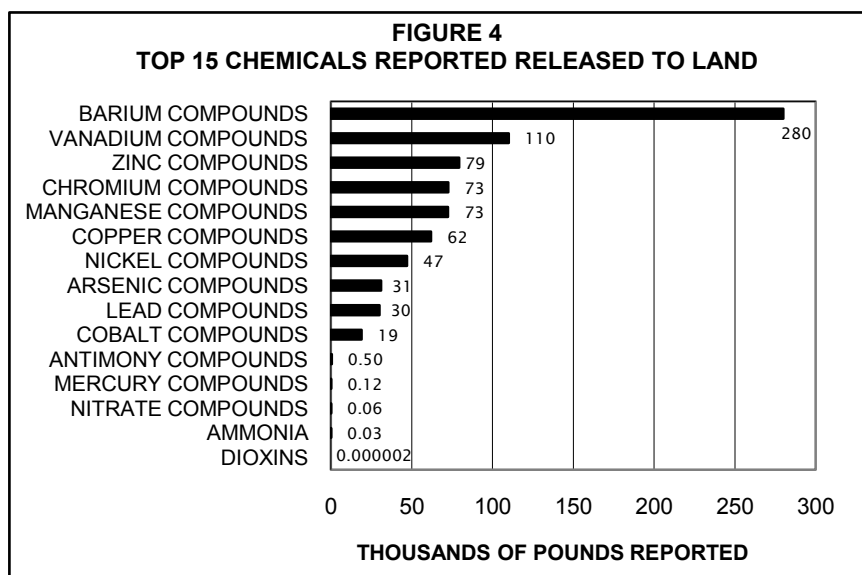
Not every report to a water body in Table 3 shows a release quantity. For example, of the 76 reports listing the Delaware River as their destination or possible destination watershed, only 53 reports show an actual release quantity to the Delaware River. The other 23 met the TRI reporting requirements and had the potential to release to the river and may have released chemicals to other media (air or land), but did not report any amounts actually released to the river. In Delaware, 33 of the 110 reports listing a water body as a destination for a possible water release did not report any quantities actually released to that water body.

Table 4 shows the total amount of TRI chemicals for 2006 released to each basin in the State of Delaware. The Piedmont Basin contains lands that drain into the portion of the Delaware River above the city of New Castle, and the Inland bays include lands that drain into the Indian River Bay/ Rehoboth Bay area, then to the Atlantic Ocean. All the receiving streams except the Nanticoke River eventually feed into the Delaware Bay. The total amount released to water increased by 2,812,000 pounds in 2006, the result of the increases from Premcor and Perdue Georgetown noted on page 8. Additional discussion about these releases can be found in the Trend Analysis Section starting on page 43 and in the facility profiles starting on page 16.

TABLE 4 TRI CHEMICALS REPORTED RELEASED TO WATER BY BASIN		
BASIN	RELEASE (IN POUNDS)	PERCENT
CHESAPEAKE	382,050	9.5%
DELAWARE BAY	3,581,388	89.0%
INLAND BAYS	3,720	0.1%
PIEDMONT	56,686	1.4%
STATE TOTAL	4,023,844	100.0%

Releases to Land

Releases to land, as shown in Figure 1 on page 7, are relatively small, amounting to 7% of total on-site releases. Figure 4 shows the relative contribution for all 15 chemicals reported as being released to land. Nearly all the land releases are metals and metal compounds except for the small quantities of ammonia, nitrate compounds, and dioxins (0.002 pounds). Most of the metals and metal



compounds reported are formed during the combustion process from metal impurities that exist in coal or oil. Barium and vanadium compounds comprise 49% of the total land releases.

Land releases by the Indian River Power Plant and INVISTA facilities, generally the metallic compounds shown above, account for over 99.9% of the total land releases. Additional discussion about these land releases and their trends can be found in the Trend Analysis Section starting on page 43.

Descriptions about some of the hazards these chemicals may present to us can be found in Appendix K.

Off-Site Transfers

Off-site transfers are material transfers to off-site locations for the purpose of disposal, recycling, energy recovery, or treatment. Treatment could be at a private waste treatment facility or at a publicly owned treatment works (POTW), typically a municipal wastewater treatment plant.

FIGURE 5
2006 OFF-SITE TRANSFERS

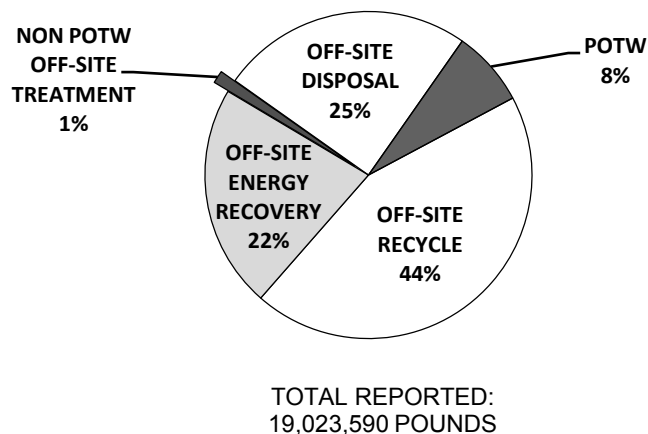


Figure 5 shows the relative portions transferred to the five off-site transfer categories. Table 2 on page 6 shows these amounts in tabular form, and Appendices D and G provide additional detail.

TRI Chemicals in wastes are transported by various means through Delaware to their final destinations, many of which are out-of-state. TRI chemicals were sent to 18 states and one Canadian province in addition to Delaware,

some as far away as Wisconsin and Texas. Over 92% of TRI chemicals in all wastes and over 99% of non-POTW wastes that were transferred off-site were sent to out-of-state locations for further processing and/or disposal.

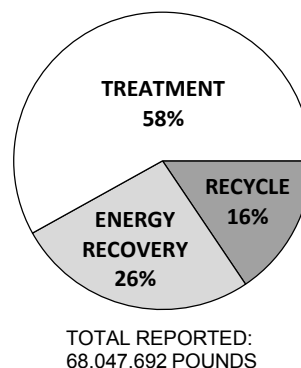
While on-site releases account for 11% of total TRI waste, reported off-site transfers account for 19% of the total TRI wastes. See Figure 7 on page 11 for detail. Off-site transfer to recycle operations accounted for 44% of the amounts within the five categories in off-site transfers, and disposals accounted for almost 25% of the transfers. Eighty-eight percent of the transfers to POTWs were to the City of Wilmington POTW, and all but 4 pounds of the transfers to all POTWs were to Delaware POTW facilities. Ciba, Cytec, Rohm & Haas, and DaimlerChrysler combined for 90% of the total TRI transfers to the Wilmington POTW.

See page 56 for more information on Delaware facilities receiving TRI chemicals from other Delaware TRI facilities and from out-of-state TRI facilities.

On-Site Waste Management

On-Site Waste Management is the amount of wastes that never leave the facility site and are managed by the facility on-site. The categories of **Recycle**, **Energy Recovery**, and **Treatment** are used to define on-site management activities related to TRI chemical wastes. The total amount of TRI chemicals managed on-site is 69% of the total TRI chemical waste. This amount is over 6 times the amount of on-site releases. Figure 6 shows the portions of these wastes processed on-site. Appendices D and G provide additional detail about management of this chemical waste. **Recycled** waste is the quantity of the toxic material recovered at the facility and made available for further use. **Energy Recovery** includes the quantity of toxic material that had heat value and was combusted in some form of energy recovery device such as a furnace. The **Waste Treatment** segment includes the amount of toxic material that was destroyed in on-site waste treatment operations. Premcor, DuPont Edgemoor, Rohm & Haas, Medial, Dow Reichhold, Indian River Power Plant, and Noramco have the highest total amounts of on-site waste management.

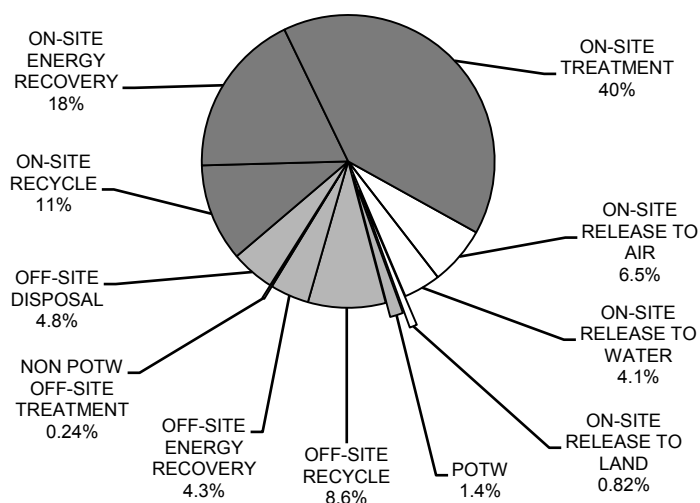
**FIGURE 6
2006 ON-SITE
WASTE MANAGEMENT**



Total Waste

Total waste is the combined total of the on-site release, off-site transfer, and on-site waste management portions of the TRI chemical report. Figure 7 provides a perspective of the total TRI chemical waste picture in Delaware. About 11% of the total reported TRI waste is released on-site, 20% is transferred off-site, and 69% is managed on-site through treatment, energy recovery, and recycling operations by the facilities generating the waste. Figure 7 shows the relative portions of each major and sub-segment of TRI waste management.

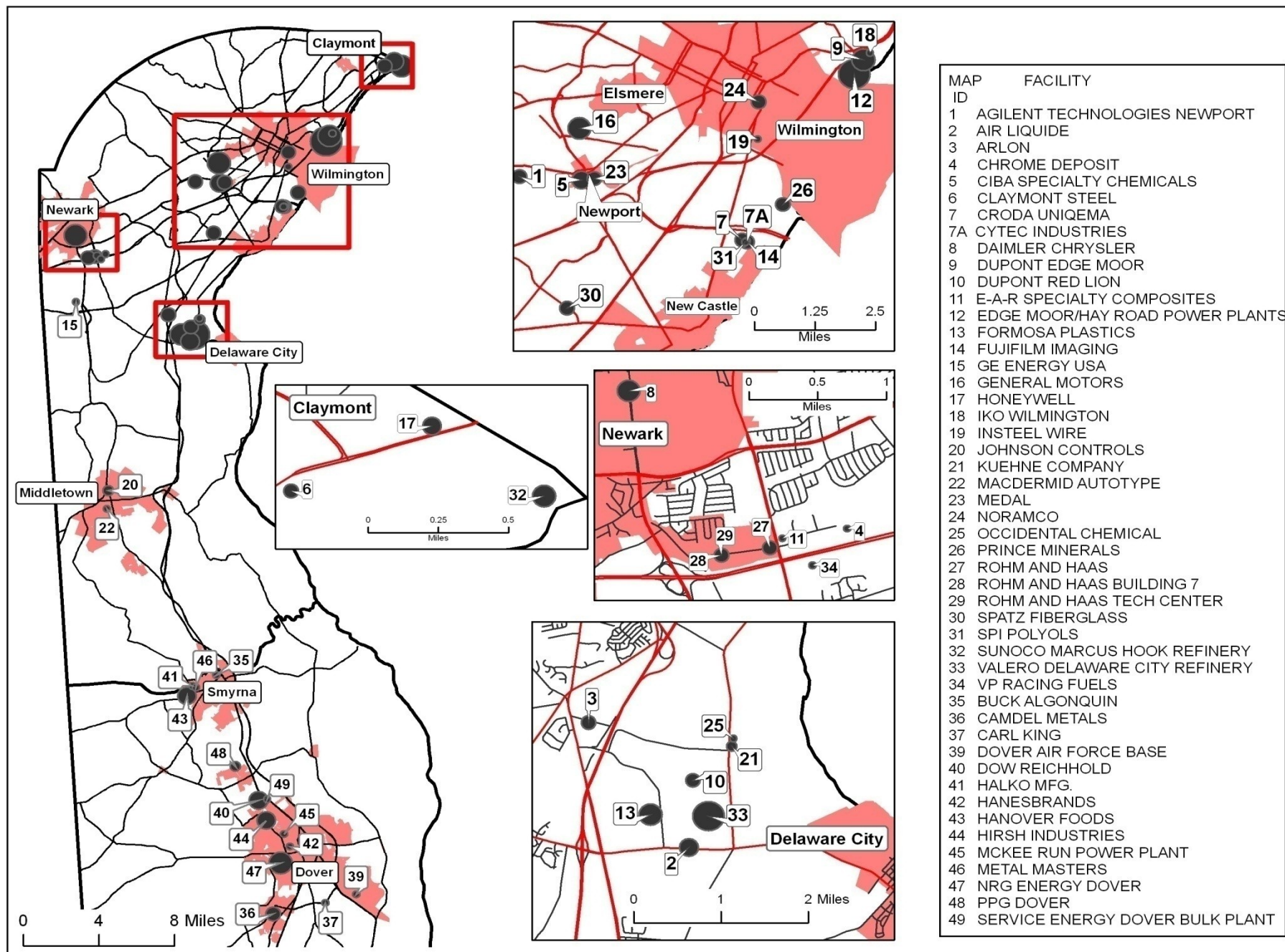
**FIGURE 7
TOTAL 2006 TRI CHEMICAL MANAGEMENT
TOTAL REPORTED: 98,242,798 POUNDS**



Facility Locations

Figure 8 on the following two pages provides the location of each reporting facility in the State. The size of the facility location marker depicts the size of its on-site release relative to other facilities in the State. Facility contact information is in Appendix B.

FIGURE 8 TRI FACILITY LOCATOR MAP



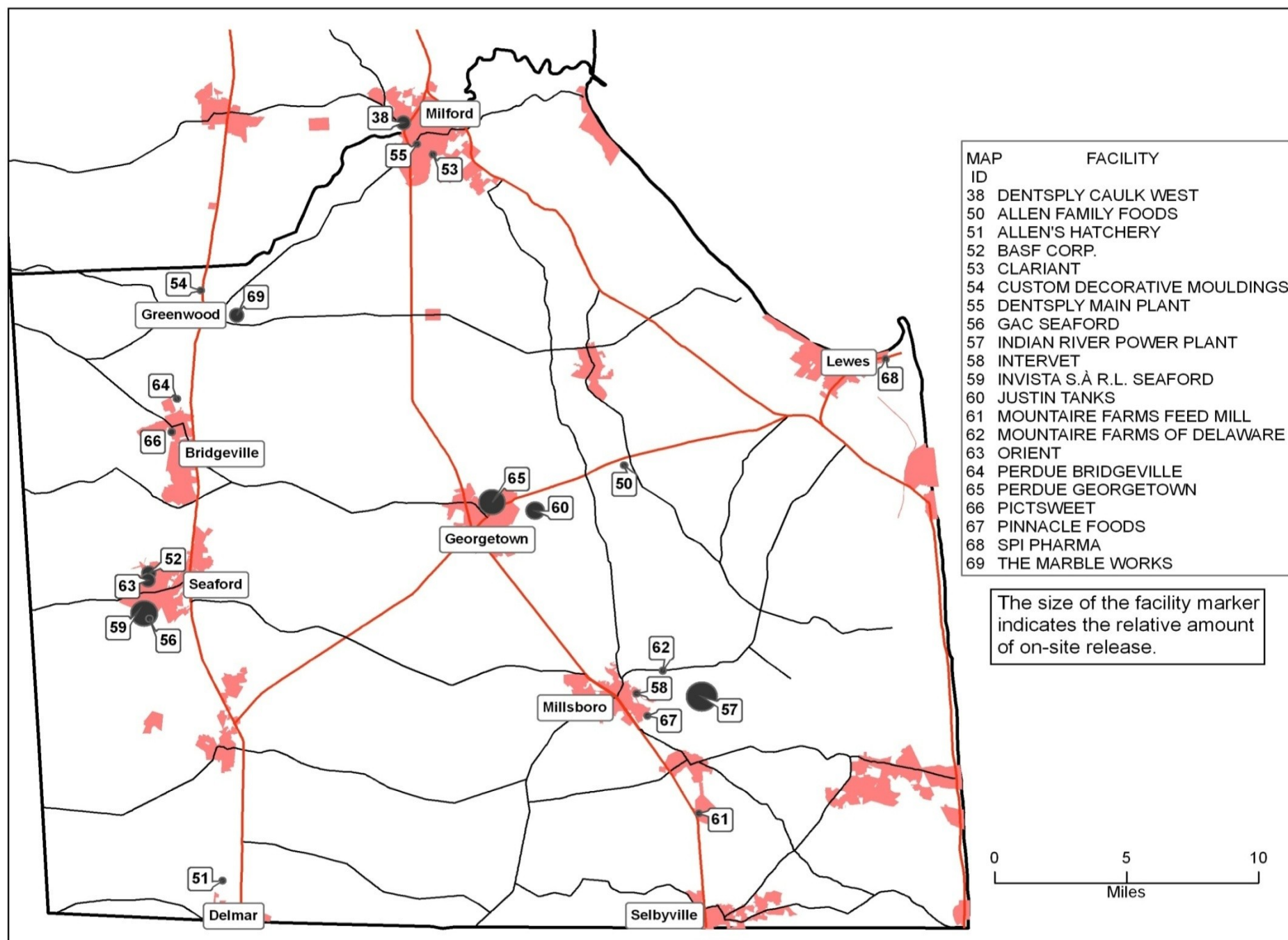


FIGURE 8 TRI FACILITY LOCATOR MAP

2006 Data Detail

On-Site Releases by County

Figure 9 below provides basic on-site release information for each county in the State.

FIGURE 9

TRI ON-SITE RELEASES REPORTED BY COUNTY

NEW CASTLE

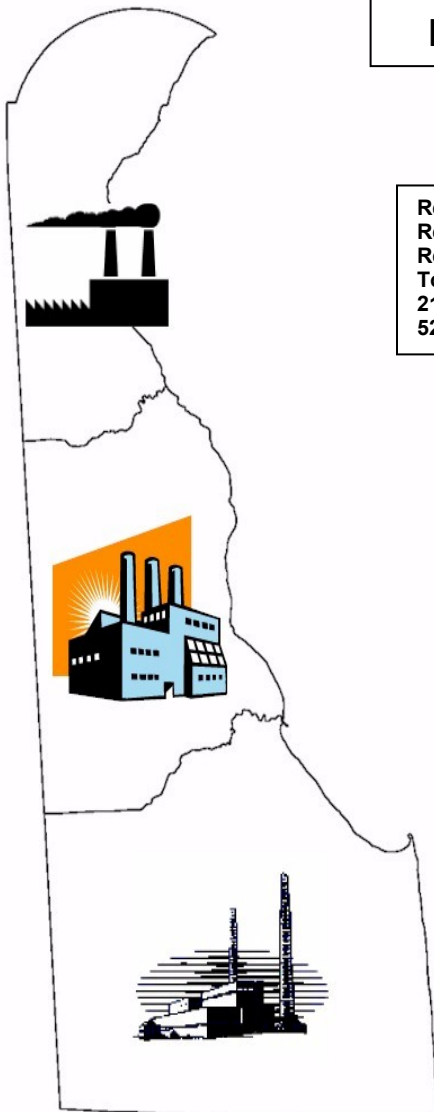
Releases to Air = 2,891,978 Pounds
Releases to Water = 2,933,074 Pounds
Releases to Land = 899 Pounds
Total On-Site Releases = 5,825,951 Pounds
210 Reports, 35 Facilities
52.2% of Statewide Releases

KENT

Releases to Air = 182,649 Pounds
Releases to Water = 0 Pounds
Releases to Land = 0 Pounds
Total On-Site Releases = 182,649 Pounds
42 Reports, 15 Facilities
1.6% of Statewide Releases

SUSSEX

Releases to Air = 3,268,532 Pounds
Releases to Water = 1,090,770 Pounds
Releases to Land = 803,613 Pounds
Total On-Site Releases = 5,162,915 Pounds
79 Reports, 20 Facilities
46.2% of Statewide Releases



Source: DNREC 2006 TRI Database 11-1-07

NAICS Industry Groups

Table 5 provides a description of each North American Industrial Classification System (NAICS) industry group and the number of facilities in each group that reported in Delaware, along with the total reported amounts for each NAICS code. Starting with the 2006 reporting year, NAICS codes replaced the SIC (Standard Industrial Classification) codes. This table also provides on-site releases, off-site transfers, and wastes managed on-site for each group.

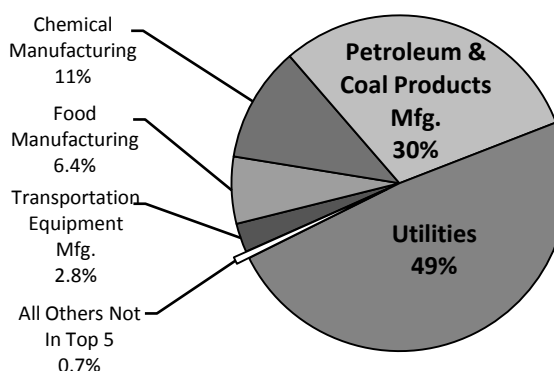
TABLE 5
2006 TRI DATA BY PRIMARY NAICS GROUP

(in pounds)

NAICS CODE	INDUSTRY GROUP	NUMBER OF REPORTS	NUMBER OF FACILITIES	FORM A	FORM R	ON-SITE RELEASE	OFF SITE TRANSFERS	ON-SITE WASTE MGMT.
211	Oil and Gas Extraction	1	1	0	1	8,130	0	0
212	Mining	4	1	0	4	1,546	0	0
221	Utilities	44	4	4	40	5,423,391	329,132	1,435,448
311	Food Manufacturing	26	9	20	6	719,718	0	350,000
313	Textile Products Mfg.	4	2	1	3	5,125	745,978	5,412,015
324	Petroleum & Coal Products Mfg.	54	5	6	48	3,401,279	196,202	28,906,692
325	Chemical Manufacturing	119	23	8	111	1,240,504	10,667,639	28,054,796
326	Plastics & Rubber Mfg.	12	7	1	11	25,067	140,990	3,676,551
331	Primary Metal Manufacturing	13	3	0	13	15,227	2,804,723	0
332	Fabricated Metal Product Mfg.	4	3	0	4	6	340,332	0
334	Computer and Electronic Product Mfg.	1	1	0	1	1	674	0
335	Electrical Equipment Mfg.	2	1	0	2	450	3,018,825	0
336	Transportation Equipment Mfg.	32	3	0	32	310,538	561,798	210,850
337	Furniture Manufacturing	1	1	0	1	12,457	0	0
339	Misc. Manufacturing	8	3	0	8	8,068	217,297	1,340
424	Wholesalers, Non-Durable Goods	2	1	2	0	0	0	0
454	Non-Store Retailers	3	1	3	0	0	0	0
928	National Security	1	1	0	1	9	0	0
	TOTAL	331	70	45	286	11,171,515	19,023,590	68,047,692

Figure 10 shows the percent contribution of each of the top five NAICS groups and all others not in the top five compared to the reported total on-site releases. Three of these top five - NAICS groups 221 (Utilities), 324 (Petroleum and Coal Products Mfg.), and 325 (Chemical Mfg.) combined for 90% of the total on-site releases within the State. Facilities not in the top five NAICS industry groups reported contributions of only 76,085 pounds on-site, or 0.7% of the on-site release total.

FIGURE 10
TOP 5 NAICS INDUSTRIES FOR 2006
PERCENT ON-SITE RELEASE



RELEASES FROM THE TOP 15 FACILITIES

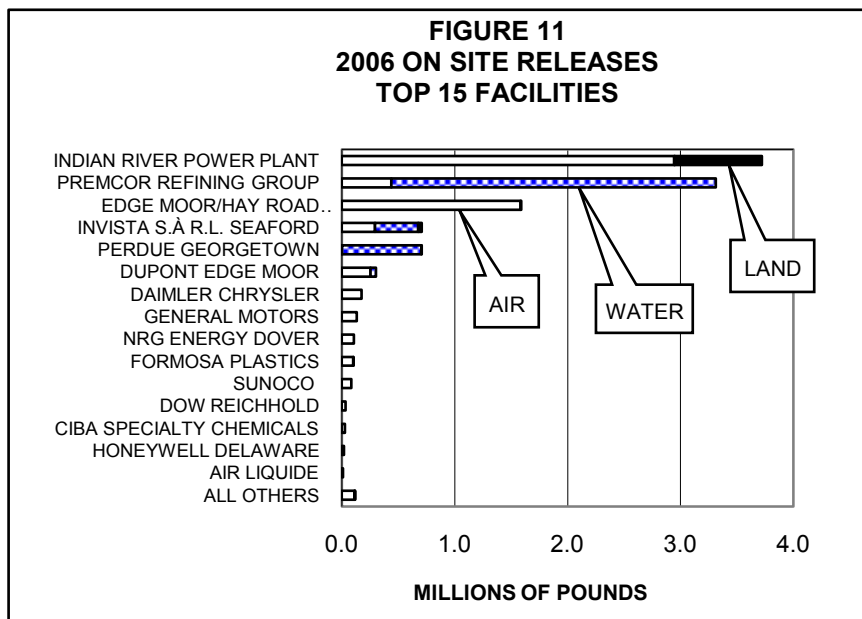


Figure 11 shows the relative contribution of each of the top 15 reporting facilities to on-site releases. The top four facilities are, or have as a significant portion of their facility, an energy generating operation. Of the 11,171,515 pounds that were reported released on-site by all 70 facilities Statewide, the top 15 facilities accounted for 11,055,068 pounds, or 99.0% of the total on-site releases.

TABLE 6
TOP 15 FACILITIES 2005 AND 2006 RANKING BY ON SITE RELEASE
(in pounds)

2005 RANK	2006 RANK	FACILITY	2006				2005 ON-SITE RELEASE	2005 TO 2006 CHANGE IN RELEASES	
			TOTAL AIR	TOTAL WATER	TOTAL LAND	ON-SITE RELEASE			
1	1	INDIAN RIVER POWER PLANT	2,946,908	3,720	771,837	3,722,465	3,881,272	-158,807	-4%
3	2	PREMCOR REFINING GROUP	439,200	2,876,341	0	3,315,541	877,350	2,438,191	278%
2	3	EDGE MOOR/HAY ROAD POWER PLANTS	1,583,686	8,227	0	1,591,913	1,500,296	91,617	6%
4	4	INVISTA S.A.R.L. SEAFORD	296,436	382,050	31,686	710,172	602,319	107,853	18%
5	5	PERDUE GEORGETOWN	2,500	705,000	90	707,590	385,090	322,500	84%
6	6	DUPONT EDGE MOOR	256,579	47,981	0	304,560	382,554	-77,994	-20%
7	7	DAIMLER CHRYSLER	177,320	0	0	177,320	206,164	-28,844	-14%
9	8	GENERAL MOTORS	133,218	0	0	133,218	79,108	54,110	68%
11	9	NRG ENERGY DOVER	109,013	0	0	109,013	38,811	70,202	181%
8	10	FORMOSA PLASTICS	102,473	5	0	102,478	179,130	-76,652	-43%
10	11	SUNOCO	85,737	0	0	85,737	73,078	12,659	17%
17	12	DOW REICHOLD	33,368	0	0	33,368	14,164	19,204	136%
14	13	CIBA SPECIALTY CHEMICALS	29,856	0	0	29,856	28,120	1,736	6%
12	14	HONEYWELL DELAWARE	19,264	0	0	19,264	36,230	-16,965	-47%
NR	15	AIR LIQUIDE	12,572	0	0	12,572	0	12,572	
		ALL OTHERS	115,027	520	899	116,447	153,080	-36,633	-24%
TOP 15			6,228,131	4,023,324	803,613	11,055,068	8,283,686	2,771,382	33.5%
STATE TOTALS, ALL FACILITIES			6,343,159	4,023,844	804,512	11,171,515	8,436,766	2,734,749	32.4%

Source: 2005 and 2006 DNREC TRI Databases, November 2007

Table 6 shows the 2006 ranking of the top 15 facilities along with their 2005 ranking and the reported amounts of on-site releases for both years. Releases to the environment because of remedial actions, accidents, or one-time catastrophic events are included in these values. The percent change in total on-site releases for each of the top 15 facilities from 2005 to 2006 is also shown, and some of these changes are significant. Changes at the facility, such as the way releases are estimated, how waste is managed, changes in raw materials or processing

methods, or installation of new or improved production equipment possibly used to limit or eliminate releases of all or specific chemicals, may affect reported releases. Changes in production amounts may or may not affect releases from a facility. Details for some of these changes are provided on the following pages. Interested individuals are also encouraged to contact facilities and inquire as to the reasons why changes occurred.

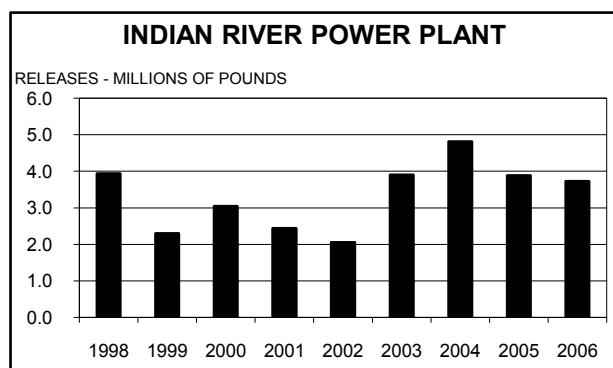
The next several pages present a brief description of each of the top 15 facilities to provide an understanding of the use and importance of some of the TRI chemicals and basic operations at these facilities. As in Table 6, this rank for the 2006 reporting year is based on total reported on-site releases. The facility description explains the general types of products manufactured at the facility and how their TRI chemicals relate to the products and the overall plant operation. The graph included with the facility description shows the trend of the facility total on-site releases since 1998, the date of the last major TRI reporting revision. The graph for each facility includes all chemicals, including the newly reportable chemicals, which have been reported by the facility. Comparisons must be made carefully as **the scales on each of the facility graphs are different**. Appendix C provides a complete list of 2006 on-site release data grouped by facility and chemical.

The DNREC TRI program visits facilities statewide during the year to get a better understanding of operations at the facilities, discuss TRI issues such as data quality that may have developed in the course of reporting, and to introduce new facilities and/or facility coordinators to the TRI program and its reporting requirements. Thirteen visits were conducted during the 2006 reporting year.

Although the TRI program itself has no limits for emissions, other DNREC and Federal programs do issue permits and limit emissions from operating facilities.

Rank #1 – NRG Indian River Power Plant - Oil- and coal-fired power plants were required to report under TRI for the first time for 1998. This 784 megawatt facility, located near Millsboro, produces electricity, primarily from the combustion of coal.

The Indian River Plant reported on nineteen TRI chemicals for 2006. Ten of these were metal compounds, three were non-metallic PBT's, three were acid gases and the remaining three were ammonia, arsenic compounds, and naphthalene. All the compounds except ammonia are formed during the combustion process as a result of impurities within the coal and oil. Reported on-site releases declined 4% for 2006.



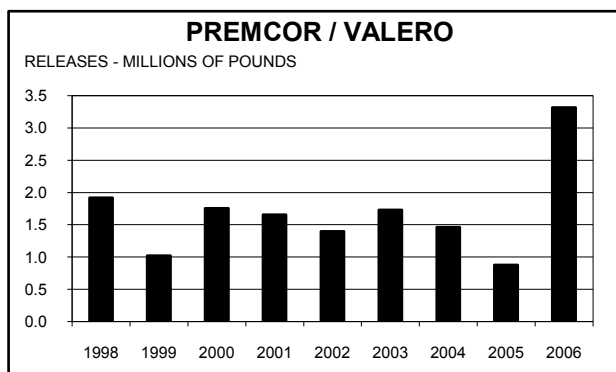
Beginning in 2003, actual stack sample data (as compared to EPA emission factor methods) were used to calculate hydrochloric acid gas releases. These methods were applied to the entire year, and this resulted in significantly higher release amounts for hydrochloric acid gas for 2003 and 2004. Starting in 2005, coal analysis and emission factors were used to calculate the hydrochloric acid gas. This gave a more representative total release for the year

because it represents all the data for the year, not just the data collected during a single stack test run on regular coal. Acid gases, such as hydrochloric acid, sulfuric acid, and hydrofluoric acid, accounted for 78% of the facility's on-site releases in 2006.

Coal consumption increased 16% in 2005 and decreased 16% in 2006 based on amounts of energy generated. In 2005, the releases decreased 19% due to the Powder River Basin (PRB) coal and other lower sulfur coals the Station was test burning. PRB coal is lower in sulfur and chlorine, which produces less sulfuric and hydrochloric acid gases.

On-site mercury releases decreased 4% in 2006. Starting in 2004, coal analysis data and emission factors were used to calculate mercury and other metal compound releases. Mercury total on-site releases for 2006 decreased to 197 pounds, down from 205 pounds in 2005 and 241 pounds in 2004. Metal compounds, formed as a result of impurities in the coal, are largely captured (97%) in the fly ash and bottom ash and sent to an on-site landfill. The metallic compounds accounted for 20% of the facility on-site releases and increased 4% in 2006 because the coals used contained higher concentrations of metals. Again, current coal analysis data is used as a basis for calculating releases. Ammonia is released in the power production process solely from the use of urea, a pollution control agent used in Selective Non-Catalytic Reduction (SNCR) technology for reducing NO_x by limiting the formation of oxides of nitrogen to the atmosphere. Ammonia release increased in 2006, the result of the associated utilization of the SNCR system. Naphthalene is in the oil consumed at the facility. Arsenic compounds are generated as a result of coal combustion and are sent to the on-site landfill.

Rank #2 – Premcor / Valero - The Valero Delaware City Refinery, owned and operated by The Premcor Refining Group, Inc. (Premcor) refines crude oil into automobile gasoline, home heating oil, and a variety of other petroleum products. Premcor purchased the facility from Motiva Enterprises, L.L.C. on May 1, 2004, and subsequently became a subsidiary of Valero Energy Corporation.



Premcor reported on 42 TRI chemicals for 2006. The total facility-reported on-site releases increased significantly in 2006. Reported releases of nitrate compounds increased to 2,745,000 pounds, up from 234,000 pounds in 2005. This increase is based on new analytical data and an improved methodology for calculation of annual nitrate compounds release that is believed to more accurately represent total

annual emissions. Process changes make up only a small amount of this increase. Ammonia declined by 198,000 pounds (84%) in 2005 and another 16,000 pounds in 2006, the result of more reliable operations of the Fluid Cat Cracker and Fluid Coker carbon monoxide boilers. Reductions of 32,000 pounds (97%) for hydrochloric acid and 32,000 pounds (12%) for sulfuric acid were also reported in 2006. Sulfuric and hydrochloric acids are formed as acid gases in several units at the facility, including the Fluid Coker, Fluid Cat Cracker, and the on-site power plant that combusts oil and gas. Release of hydrochloric acid has decreased 99% since 2003, the result of a hydrochloric acid wet gas scrubber (WGS) on the continuous catalytic reformer

unit. Sulfuric acid gas release has declined 35% since 2003 because of lower sulfur content in fuel gas and the addition of the Fluid Cat Cracker and Fluid Coker wet gas scrubbers. Reported releases of MTBE continue to decline, with a 62% reduction in 2006, due to the phase-out of MTBE as an additive in gasoline blends.

The above changes, along with other smaller increases and decreases, resulted in a net increase of 2.4 million pounds (278%) in reported on-site releases for the facility in 2006.

Total on-site waste management amounts decreased by 2.5 million pounds in 2006, the result of new data from fuel gas analysis and an improved methodology for calculation.

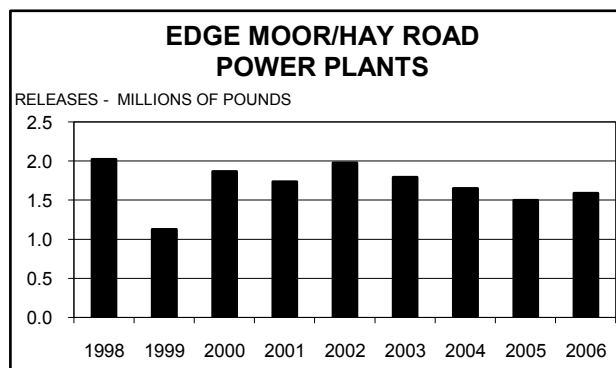
Off-site transfers declined by 87% or 1.3 million pounds in 2006, primarily the result of decreases in the amounts of metal compounds sent off site to recycle. These decreases were the result of fewer maintenance turnarounds of major units in 2006.

Rank #3 - Edge Moor/Hay Road Power Plants - Oil- and coal-fired power plants were required to report under TRI for the first time for 1998. The Edge Moor/Hay Road facilities are located along the Delaware River a mile north of the Port of Wilmington and produce electricity from the combustion of coal, oil, and natural gas.

The Edge Moor/Hay Road power plants reported on eighteen TRI chemicals for 2006. These facilities reported three acid gases, nine metal compounds, four non-metallic PBTs, nitrate compounds, and ammonia.

All listed compounds except ammonia are formed during the combustion process because of impurities within the fuel.

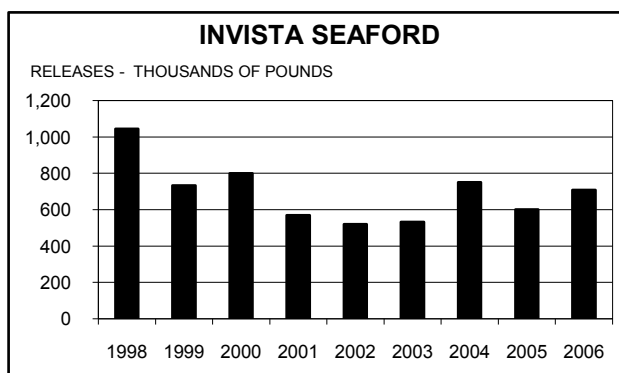
Ammonia is released from the Edge Moor facility solely from the use of urea, a pollution control agent used for limiting the formation of oxides of nitrogen to the atmosphere. Ammonia is also used at the Hay Road facility for pollution control.



Electricity production at the facility declined 25% in 2006. However, because of a change in the types of fuel used (a decrease in No. 6 oil and increase in coal), overall reported on-site releases increased 6% compared to 2005 and are now 79% of the facility's 1998 level. Acid gas emissions -- hydrochloric acid, hydrogen fluoride and sulfuric acid -- accounted for 97% of on-site releases. Some TRI chemical releases, including ammonia, copper compounds, hydrochloric and hydrogen fluoride acid aerosols, and mercury compounds, increased. Ammonia increases were due to a new emission factor for Unit 3 based on the results of 2006 stack testing. The reported increases in hydrochloric and hydrogen fluoride gases, and copper and mercury compounds were the result of an increase in coal usage.

Decreases in on-site releases were reported in chromium, lead, manganese, nickel, and vanadium compounds, and sulfuric acid. These decreases were the result of the change in fuel types. About 94% of the metal compounds are largely captured in the fly ash and bottom ash and was disposed of in an off-site landfill. A portion of the ash is re-used in an encapsulated form by various vendors. The remaining 6% of metals not captured in ash was released to on-site air and water, and accounted for 1.3% of their total on-site releases.

Rank #4 – INVISTA Seaford - This facility was the first plant worldwide to produce spun nylon fibers, beginning operations in 1939. INVISTA's Seaford site is located on approximately 648 acres adjacent to the Seaford Golf and Country Club and the Nanticoke River.



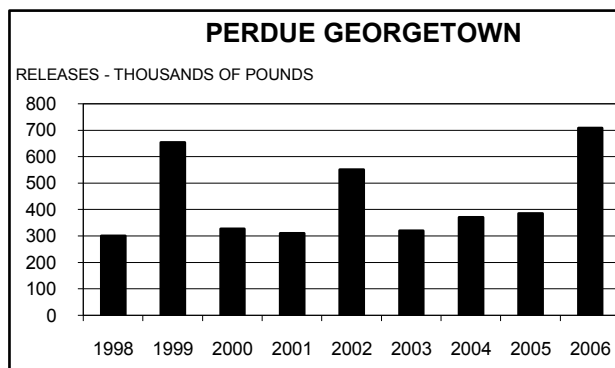
Principal products produced at INVISTA's Seaford site include Bulk Continuous Filament (BCF) nylon yarn for carpets, staple fiber for U.S. Army combat uniforms and chemical-resistant clothing for the military, staple fiber for tennis balls, pool table coverings, and "gaming" felts, and staple fiber for conveyer belts used in paper manufacturing.

The INVISTA facility reported on 14 TRI chemicals for 2006. Of the 14 TRI chemicals reported, 94% of the on-site releases were comprised of three chemicals: hydrochloric and sulfuric acid aerosols (released to air) and nitrate compounds (released to water). Combustion of coal in the INVISTA power facility produces hydrochloric and sulfuric acid aerosols which are released to air from the power stack. The coal contains small amounts of chlorine- and sulfur-containing compounds that convert to acid gases in the combustion process. Nitrate compounds are produced during biological treatment of nylon process wastewater.

Total on-site releases increased 107,000 pounds (18%) from 2005-2006. The INVISTA facility reported a 19% increase (30,000 pounds) in hydrochloric acid aerosols for 2006, while on-site release of sulfuric acid aerosols decreased 20% (24,000 pounds). Although the facility's overall fuel usage decreased by 13% from the prior reporting year, utilization of emission factors derived from emissions testing in 2006 vs. published emission factors used in 2005 calculations resulted in the increased amount reported for hydrochloric acid aerosol releases. Sulfuric acid aerosol releases decreased based on lower fuel usage and lower sulfur content in the coal from the prior reporting year. Some areas of production increased and nitrate compounds related to biological treatment of process wastewater from these production areas increased 23% (70,000 pounds). Reported amounts of chromium compounds increased 210% (7,500 pounds), and zinc compounds increased 213% (10,000 pounds) from the prior reporting year due to the removal of coal ash from an onsite ash retention pond and transfer to the facility's permitted on-site landfill.

Rank #5 - Perdue Farms Georgetown - Perdue Farms is a producer of poultry products. The Georgetown facility processes chickens for sale to the retail market.

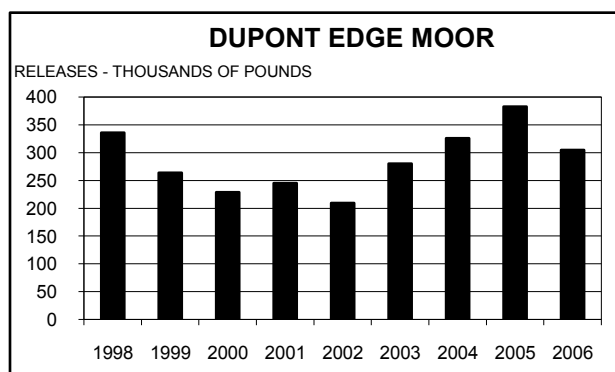
Perdue Georgetown reported on four TRI chemicals for 2006. Over 95% of the on-site releases were nitrate compounds. The Perdue wastewater treatment plant digests ammonia and production waste from the poultry processing plant's wastewater stream and converts some of these wastes to nitrate compounds.



Nitrate compound volume at the plant significantly increased in 2006 as a result of trying various methods to optimize the wastewater treatment system for a new NPDES permit. On-site releases reported for 2006 increased by 323,000 pounds (84%) to a total of 708,000 pounds. Values for 2007 have declined and should be reflected in next year's report. These amounts have varied in recent years because of changes in plant operation and in the way the amount of nitrate compounds releases are estimated. In 2003, nitrate compound on-site releases decreased by 42%, the result of additional water recycle projects. In 2004 and 2005, production increases accounted for the increases.

Rank #6 - DuPont Edge Moor - The Edge Moor Plant is one of three domestic DuPont facilities that manufactures titanium dioxide, a white pigment that is used in the paint and paper industries. The facility also produces titanium tetrachloride and ferric chloride. The plant is located along the Delaware River a few miles north of the Port of Wilmington.

DuPont Edge Moor reported on 21 TRI chemicals for 2006. Carbonyl sulfide accounted for 80% of their total reported on-site release amounts, and manganese compounds accounted for 12%. Carbonyl sulfide is a by-product produced from the use of sulfur-bearing coke in the process of manufacturing the titanium dioxide from titanium-rich ores. Manganese compounds are also by-products produced from the ores during the manufacturing process. While



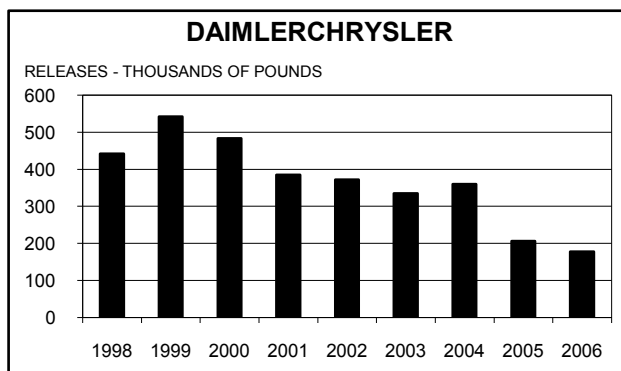
production increased 7.86% in 2006, the iron rich product produced decreased 4.4%, and on-site release of carbonyl sulfide increased by 7%. The iron rich product is a filter cake byproduct produced during the filtration of unreacted coke and ore solids. Carbonyl sulfide is a gas by-product of the titanium dioxide production process. Also, although the volume of manganese compounds increased in 2006, reported on-site release to water of manganese compounds decreased 72%, which was the result of a decrease in manganese concentrations observed in wastewater, causing a net decrease in total on-site releases of 20%.

The term “dioxins” is used in this report to indicate a group of 17 dioxins and dioxin-like compounds (including furans) reportable to TRI, out of a family of several hundred dioxins and dioxin-like compounds. Among the “dioxins” included in TRI reports is the very toxic 2,3,7,8-TCDD dioxin, which is the congener generally of most concern, and most commonly covered by the popular news media. Toxicity levels of these 17 compounds vary greatly, and some compounds in this group have toxicity levels **1,000 times less** than the 2,3,7,8-TCDD dioxin. The great majority (97%) of the “dioxins” reported by DuPont Edgemoor is a furan of this lower toxicity level. Also, DuPont reported no manufacture or release of the 2,3,7,8-TCDD dioxin in 2006. All TRI “dioxins” are reportable in grams without regard to toxicity level.

Dioxins and dioxin-like compounds are also created as a result of ore processing. Over 99.99% (62.79239 pounds out of 62.79398 pounds generated) of the dioxins generated are contained within the solid material sent to an out-of-state landfill facility. DuPont has made a public commitment to reduce the generation rate of dioxin and dioxin-like compounds by 90% by the end of 2007 compared with 2001 levels (final 2007 data is not available at the time of printing this report). DuPont completed a major capital construction project in 2006 to provide these reductions, with the expectation that DuPont will meet its 90 percent reduction goal for “dioxins and dioxin-like compounds” in the coming years. Through 2006, DuPont reduced by more than 99 percent the on-site release of Dioxin and dioxin-like compounds from 2001 levels, and reduced off site transfer for disposal from the Edge Moor plant by 63% by implementing the capital project and by making process modifications.

Although production of dioxins has been reduced since 2001, on-site release and off-site transfer of dioxins did increase in 2006 compared to 2005. Reported on-site release of dioxins increased by 0.00075 pounds, while reported amounts transferred off-site increased by 23.7395 pounds for 2006. This increase was due to an increase in dioxin concentration in the iron-rich product.

Rank #7 - DaimlerChrysler Newark Assembly Plant - Daimler Chrysler assembles the Dodge Durango SUV for distribution to dealers. Daimler Chrysler reported on 16 TRI chemicals for 2006. All on-site releases were to the air. Many of these are solvents used in paints or for parts cleaning, while others are materials that are incorporated into the cars themselves, such as ethylene glycol (antifreeze) and n-hexane (gasoline).

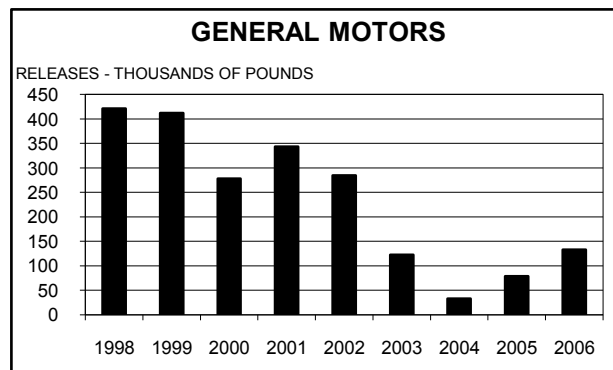


The vehicle body coating process makes use of 1,2,4-trimethylbenzene, certain glycol ethers, methyl isobutyl ketone, n-butyl alcohol, and xylene. Some of these materials are also used elsewhere in the facility. In total, these chemicals accounted for approximately 86% of the Daimler-Chrysler on-site releases in 2006. Daimler-Chrysler accounted for about 75% of certain glycol ethers and 20% of all xylene releases in the state in 2006.

This facility had a production decrease in 2006 of 23% because of a model changeover, but the on-site releases decreased 14%. Materials that are incorporated into the vehicles increase and decrease directly with production. Other materials such as solvents, even with continuing pollution prevention activities, increase during shutdowns because of the additional usage required in the paint process for purging lines.

Rank #8 - General Motors Wilmington Assembly Plant - General Motors (GM) assembles Pontiac Solstice and Saturn Sky automobiles for distribution to dealers; the Opel GT for export to Europe; and the Daewoo G2X for export to Korea.

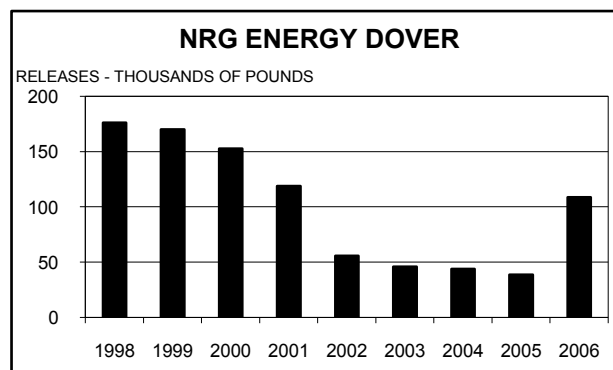
GM reported on 15 TRI chemicals for 2006. Many of these are solvents (certain glycol ethers, xylene) used in paints or for parts cleaning, while others are materials that are incorporated into the cars themselves, such as ethylene glycol (antifreeze). Xylene, certain glycol ethers, and 1,2,4-trimethylbenzene are paint solvents used in both the base and top coats and accounted for 84% of GM on-site releases in 2006. General Motors accounted for about 11% of certain glycol ethers, 61% of 1,2,4-trimethylbenzene, and 65% of all xylene releases in the state in 2006.



Although 2006 production was 418% of the 2005 level, on-site releases were 168% of the 2005 amounts. During 2004-2005, the plant underwent a significant model change-over and production was curtailed, but some TRI chemicals remained in use for non-production cleaning and other changeover activities. In 2006, production re-started and production-related releases of TRI chemicals increased in proportion to production, while non-production releases continued at a lower level.

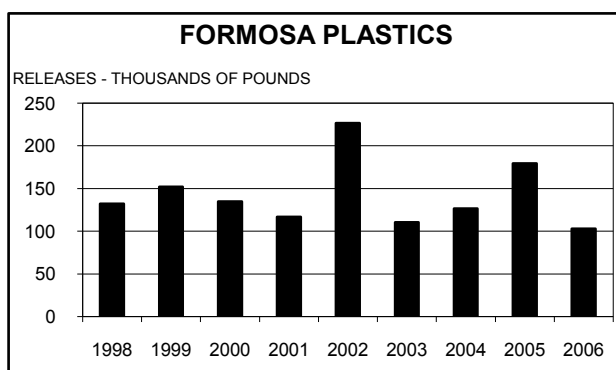
Rank #9 - NRG Dover Plant – NRG Dover, located on the West side of Dover, produces electricity primarily from the combustion of coal. Oil- and coal-fired power plants were required to report under TRI for the first time for 1998.

The NRG Dover Plant reported on four TRI chemicals for 2006. Two of these were acid aerosols - hydrochloric acid and sulfuric acid - formed during the combustion process. Acid gas releases accounted for over 99.9% of the facility on-site releases. Small amounts of metal compounds are also formed during combustion because of metallic impurities in the coal and are largely (97%) captured in the fly ash and bottom ash and sent to an off-site landfill.



The decrease in the 2002 reported releases was the result of using actual coal mine data as a basis for estimating releases of hydrochloric acid aerosols. This new basis reduced the reported release of hydrochloric acid by 65% (63,000 pounds) in 2002, and the hydrochloric acid release amount was nearly the same for 2003. The sulfuric acid release in 2003, however, was lower by 47%, the result of applying a coal mine coal cleaning factor which was included for the first time that year. For 2005, production increased by 4% while reported releases decreased by 12%. This reduced release amount was because of the lower sulfur content in coal purchased in 2005, which resulted in a 38% reduction in the reported sulfuric acid release. Although electricity production declined 24% in 2006, estimated release of hydrochloric acid increased to 100,000 pounds, a 213% increase over 2005. This increase was because of a change in coal suppliers in 2006. Analyses showed the new coal to have higher chlorine content than previously fired coals.

Rank #10 - Formosa Plastics - Formosa Plastics, located in the Delaware City complex, produces polyvinyl chloride (PVC) resin for bulk sale to other industries that produce PVC based products, such as containers, flooring, carpet backing, upholstery, toys, and gloves.



Formosa reported three TRI chemicals for 2006. Vinyl chloride monomer (VCM) accounted for 38% of their on-site releases. VCM is the primary ingredient for producing PVC and is released as residual unreacted monomer during the drying process of the PVC resin. Permits regulate the concentration of the residual monomer in the PVC before drying. Vinyl acetate accounted for 42% of Formosa's on-site releases for 2006. Vinyl acetate is also a

raw material used in certain products and is released through the drying process. Ammonia is also used in several of Formosa's products and is released during the PVC drying process. Ammonia accounted for 20% of Formosa's on-site releases in 2006.

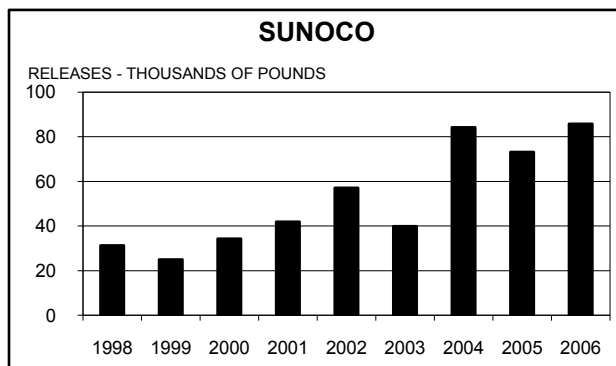
For 2006, total on-site releases were down 43%. All three chemicals had reductions in their release amounts. The primary reasons for the reductions were reduced residual amounts of both vinyl chloride and vinyl acetate, and the initiation of a more accurate ammonia testing procedure.

Formosa started using a new basis on which to estimate vinyl acetate releases in 2002, so direct comparison of 2002 and later years with prior years is not possible.

Rank #11 – Sunoco Refining and Marketing – Sunoco is located in Marcus Hook, PA, and extends into the North Claymont area of Delaware. The Marcus Hook facility can process 180,000 barrels a day of crude oil into fuels – including gasoline, aviation fuel, kerosene, heating oil, residual fuel, propane and butane, and petrochemicals. The major petrochemicals are benzene, toluene, xylene, cyclohexane, propylene, ethylene, and ethylene oxide; these are sold to chemical companies, which use them to make a variety of other products. The portion of the Sunoco facility in Delaware reported four TRI chemicals in 2006.

Ethylene and ethylene oxide accounted for 94% of the total on-site releases from the Delaware portion of the facility in 2006, and smaller amounts of benzene and xylene were also reported as released to air from tanks in Delaware.

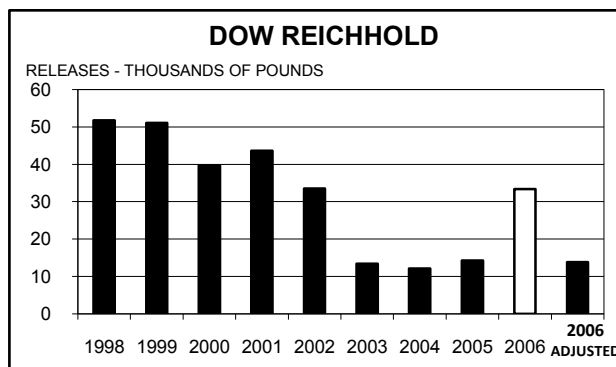
For 2006, on-site releases increased by 17%. Benzene releases increased 3% and ethylene releases increase 23% in 2006. The increase in benzene releases was a result an improved calculation method to determine tank emissions. The ethylene release increase was due to new emissions data from a recent stack test.



Rank #12 - Dow Reichhold – Dow Reichhold is located two miles south of Cheswold. Dow Reichhold produces emulsion polymers, sometimes referred to as latex. These products are sold in bulk liquid form and are used in the manufacture of synthetic fuels, nitrile rubber gloves, textiles, and other specialty products.

Dow Reichhold reported on ten TRI chemicals in 2006. Most of these are raw materials used to form the emulsion polymers.

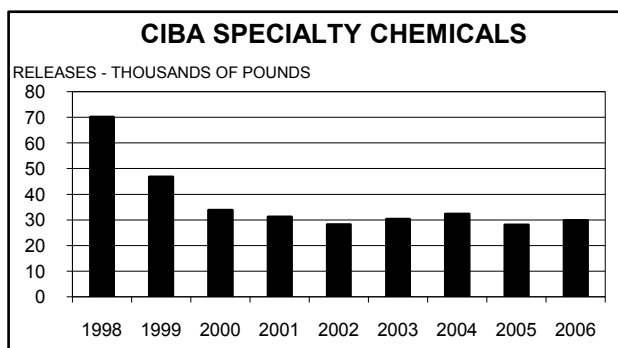
In 2006, a railcar containing styrene at the facility spontaneously polymerized, releasing styrene into the air. The railcar was not connected to any plant processes and no fire or explosion occurred at the facility. That is the reason for the large increase in 2006. This styrene release resulted in a widespread evacuation of residents and businesses and a shutdown of Rt. 13, which caused significant disruption and inconvenience. Delaware's EPCRA law also requires immediate notification of emergency releases, as well as reporting the amounts of chemicals in inventory for planning and emergency response. See Appendix B for more information. Total on-site release amounts for 2006 at Dow Reichhold are comparable to the 2002 amounts, but if they are adjusted as shown on the above graph for this non-production related event, on-site releases in 2006 would be 3% lower than the 2005 amount.



Thirty-six percent of on-site production releases were of 1,3-butadiene, whose 2006 on-site release was 17% of its 1998 level. Pollution control equipment processed the residual monomers and achieved 98.0-99.9% removal efficiency before releasing its exhaust to the air. Although production was unchanged in 2006, it has declined by 50% since 1998. During the same time frame Dow Reichhold's production-related on-site releases have decreased by 73%. The reductions starting in 2003 are partially the result of declining production, but are also the result of increased thermal oxidizer uptime, reduced styrene usage, utilizing a more accurate basis for estimating releases, implementing a more rigorous Leak Detection and

Repair (LDAR) program that exceeds current regulations and improving the performance of the emission control equipment. Some of the reduction is also attributable to improvements in the conversion of monomer in the production recipes.

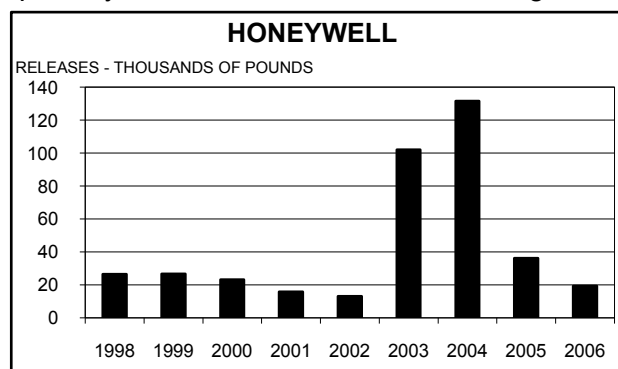
Rank #13 – Ciba Specialty Chemicals - Ciba Specialty Chemicals is located in Newport. Ciba manufactures pigments for the paints, plastic, and printing industries. They reported on eight TRI chemicals for 2006. All on-site releases were to air.



Methanol was the predominant chemical released on-site in 2006 (94% of total on-site releases). Methanol is used as a reactant and a solvent in the pigment manufacturing process. A significant portion of methanol used at the facility is recycled.

Total pigment production was up slightly in 2006, and overall on-site releases increased because of this and also because of a different pigment assortment manufactured. Ciba has expanded and modernized their facility since 1998. Although facility capacity has more than doubled since 1998, they have achieved a 57% reduction in on-site releases during this time. They have also reduced transfers of methanol to off-site water treatment by 72% since 1998.

Rank #14 – Honeywell International - Honeywell, located in Claymont, manufactures specialty chemicals that are used in agricultural, pharmaceutical, and household products.



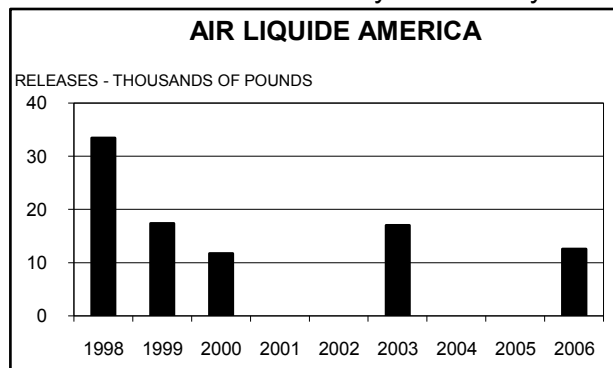
This facility also produces boron trifluoride, used in the production of hydrocarbon resins, lubricants, and adhesives.

The Honeywell facility reported on eight TRI chemicals in 2006. Releases of ammonia and n-hexane, used in production of caulking, accounted for about 87% of their total on-site releases in 2006. Although production increased 17% in 2003, the primary reason for the 600+% increase in

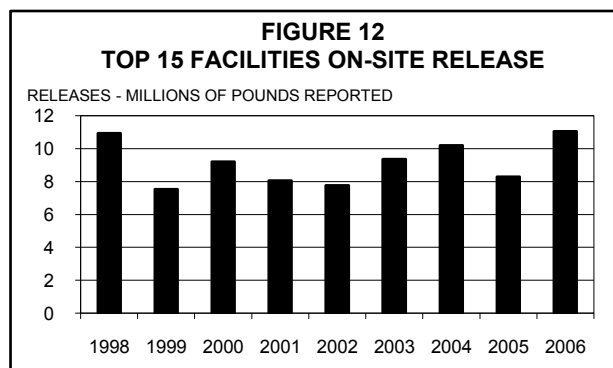
the reported amount that year was that Honeywell performed stack testing and is using this more accurate basis for estimating releases.

In 2004, production increased 31% and the increase in on-site releases is a direct result of the production increase. During 2005, Honeywell completed a two phase emission control project that decreased on-site emissions by 72% even with a production increase of 11%. In the 2006, the combination of 11% reduced production and the full year impact of the completed emission reductions project further reduced on-site releases by another 47%. Most of this impact was for n-hexane, falling by 60% compared to 2005.

Rank #15 - Air Liquide America Air Liquide is located in Delaware City and produces liquified carbon dioxide from a gas stream received from another nearby TRI facility. The carbon dioxide is used by many industrial and food processing facilities in the region. Air Liquide reported on one chemical, ammonia in 2006. Ammonia is used in the refrigeration systems that condense the carbon dioxide. The gaps in data for 2001-2002 and 2004-2005 are because this facility did not meet the minimum threshold for reporting to the TRI program in those years. Since 1998, on-site releases of ammonia have decreased by 62%.



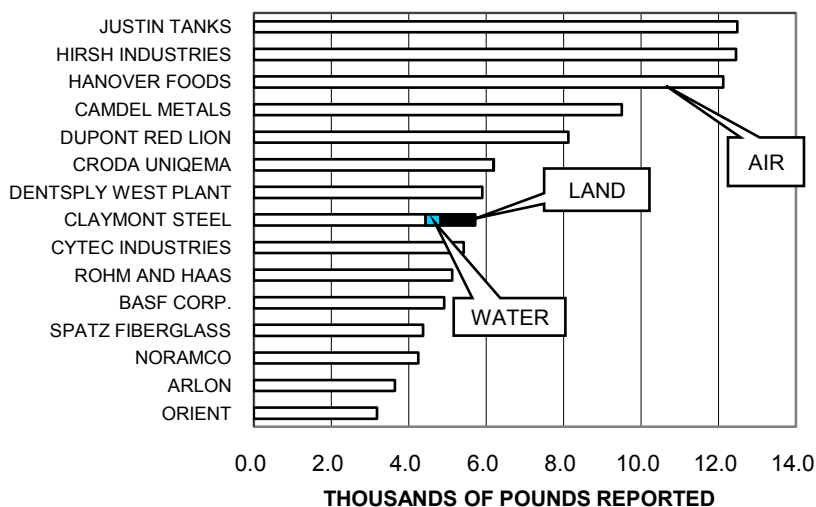
Combined Top 15 Facilities Trend – Figure 12 shows the totals for reported on-site releases for the top 15 facilities during 1998-2006. These facilities represent 99% of the total on-site releases in the State for 2006. Nine facilities had increases in 2006, the largest being the 2.4 million pounds increase reported by Premcor (#2). Five facilities had decreases, the largest being the 159,000 pounds decrease reported by the Indian River Power Plant (#1). One facility, Air Liquide (#15), did not report last year. The total on-site release trend for these 15 facilities is up 1% since 1998. All reportable chemicals are included without adjustment in the data shown on this graph and the ones for the individual facilities. Additional trends will be presented later in this report, and some of these trends take into account the new reporting requirements.



Releases from the Second 15 Facilities

As with the first 15 facilities, a brief description of the second 15 facilities is presented on the next several pages. Although the second 15 group of facilities released a much smaller amount of TRI chemicals on-site, their operations are an important part of the Delaware economy. Again, the ranking is based on the total facility reported on-site release. Releases to air constitute about 98.8% of the second 15 group total on-site release, while releases to water and land each contribute less than 1%. Figure 13 shows the amounts and relative portions released to air, water, and land by each of the second 15 facilities.

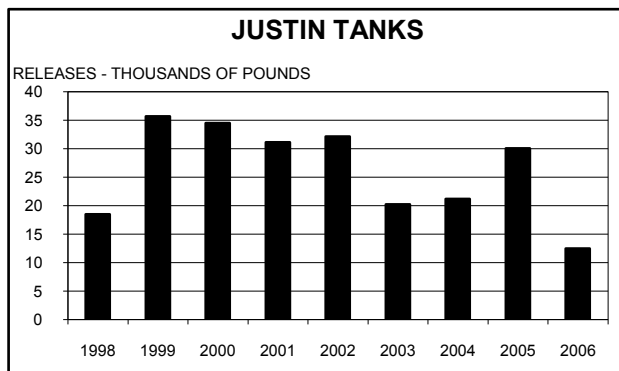
FIGURE 13
2006 ON SITE RELEASES REPORTED BY
SECOND 15 FACILITIES



In comparing facility rankings and release amounts with prior years' data, you may note that some facilities have reduced their on-site releases but their rank did not change. This is because of the general downward trend of this group (down 22% for 2006). This trend is shown in Figure 14 on page 35. In addition, some facilities may move up to the top 15 group or out of the top 30

entirely. These facilities may be replaced by other facilities that have lower release amounts. Individual facilities that remain in the group must keep pace with this downward trend and effect their reductions at a similar rate in order to maintain their rank. In some cases, significant reductions result in little, if any change in rank, and no change or a small reduction in release may result in an increase in rank.

Rank #16 - Justin Tanks – Justin tanks, located in Georgetown, manufactures a wide variety of Fiberglass Reinforced Plastic (FRP) tanks for use in the chemical, agricultural, and food industries.

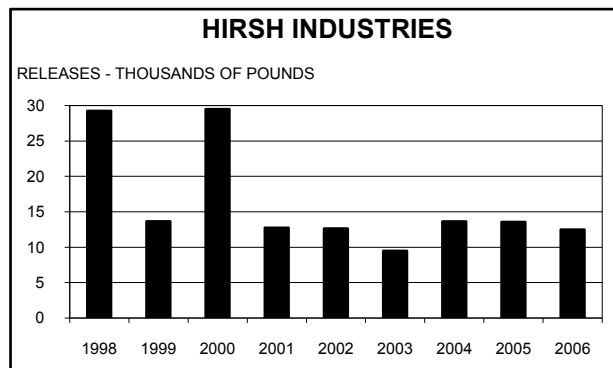


Justin reported on one TRI chemical, styrene, for 2006. Styrene is used as a monomer in the polymerization of fiberglass resin. The majority of the styrene is released to the air during the application process of fiberglass to the tank. During polymerization and curing, the amount of styrene release diminishes to zero at full cure. No release occurs after the tank polymerization and curing process is complete.

On-site releases at Justin Tanks decreased 58% compared to 2005, the result of a decrease in production, use of lower styrene monomer resins and the completion of equipment improvements in 2006 to reduce styrene releases during the application process.

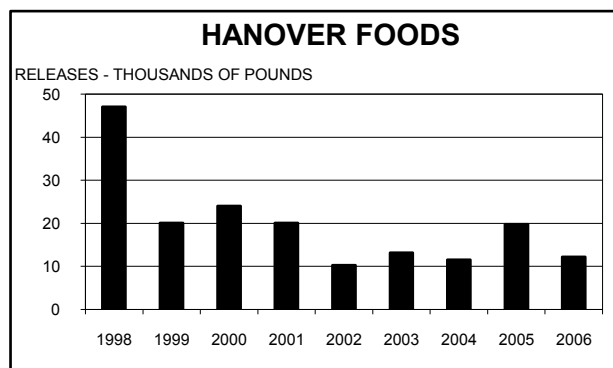
Rank #17 – Hirsh Industries – Hirsh Industries produces a line of consumer durables. These products include file cabinets, shelving units, and lateral filing systems. These items are used in home and office applications. Hirsh Industries is located in North Dover.

Hirsh reported one TRI chemical in 2006, certain glycol ethers. It is used as a component in coatings for their painting process. Although the volume of production activities involving certain glycol ethers was unchanged in 2006, on-site releases decreased 8%, and total on-site release is now at 43% of the 1998 amount. A more effective painting process, improved paint products from their vendors formulated to meet new hazardous air pollutant (HAP) regulations, and Hirsh utilizing more accurate methods to estimate the amounts of releases caused the recent downward trend. The earlier downward trend during 1999-2003 is partially the result of a 32% decline in production.

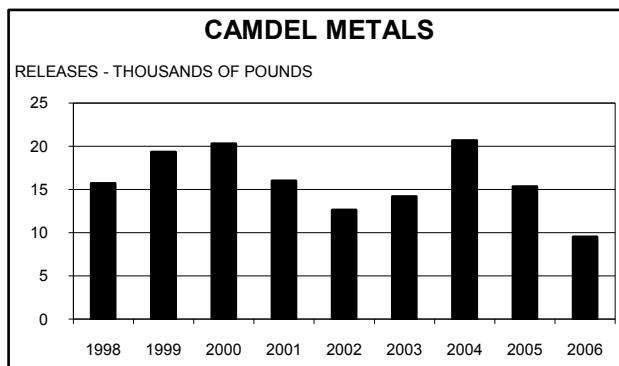


Rank #18 - Hanover Foods - Hanover Foods Corporation produces a variety of fresh, frozen, and canned vegetables, soups, refrigerated and frozen entrees, and snack foods. Customers for these products include the retail, foodservice, military, club store, and industrial markets.

The Hanover Foods facility, located in Clayton, freezes fresh vegetables including corn, peas, lima beans, spinach, and squash, as well as prepares, freezes, and packages entrees. Hanover reported ammonia releases for the past several years. This was primarily due to leaks and other losses in their refrigeration equipment. In recent years, the increase and decrease of ammonia releases reflect the level of production. In 1999, with the assistance of DNREC's Emergency Prevention and Response Branch, a program to reduce ammonia releases was begun, and Hanover's on-site releases have decreased by 74% since 1998. In 2005, production increased 50% but the reported ammonia release increased 72%, the result of leaks and losses associated with the installation of additional equipment. In 2006, production was unchanged and releases declined to recent historical amounts.



Rank #19 - Camdel Metals - Camdel Metals Corporation specializes in the production of seamless and welded stainless steel coiled and straight length tubing. These tubes have been produced for numerous petrochemical applications, process construction, general control systems, instrumentation, medical, military, oil and gas, down hole and subsea umbilical



applications. Camdel Metals produces continuous seamless coils that can be in excess of 6,000 feet. The tubing ranges in size from .020 to 3/4 inch diameter.

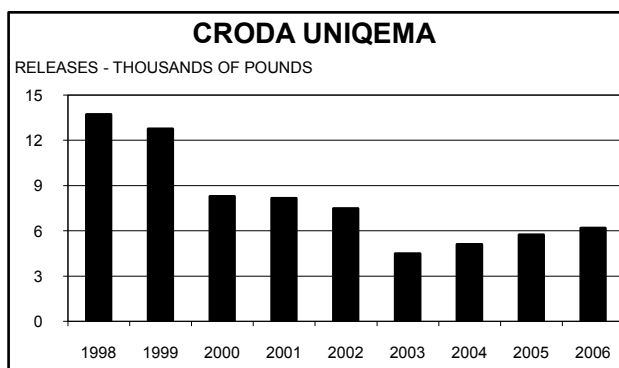
Trichloroethylene (TCE) is the primary TRI chemical reported by Camdel Metals, and makes up 100% of the on-site release amount. It is used as a solvent to clean the tubing. Production increases related to TCE use in 2003 (15%) and 2004 (43%) accounted for most of the on-site release

increases since 2002, and releases generally tracked production. Although production volume related to use of trichloroethylene fell 15% in 2006, trichloroethylene releases fell by 38%, the result of improved process control and waste management.

Rank #20 - DuPont Red Lion – This facility, located north of the Premcor Delaware City refinery, manufactures sulfuric acid derived from spent sulfuric acid and refinery gas received from the refinery. The spent sulfuric acid and refinery gas are received by pipeline, and the fresh acid is shipped from the facility via pipeline, tank trucks and tank cars. The facility has the capacity to manufacture 550 tons/day of sulfuric acid. The approximate volume of sulfuric acid manufactured by this facility in its first full year of operation was 340 tons/day.

This facility is new, starting up and reporting on a partial year of production for the 2005 reporting year. On-site releases from this facility for 2006 were 8,130 pounds of sulfuric acid gas released to air. Since this is only the second year and first full year of operation for this facility, no trend is yet available. A trend will be provided in the future, when a meaningful range of data is available.

Rank # 21 – CRODA UNIQEMA - Formerly ICI Atlas Point, then Uniqema, these companies have occupied this site located in New Castle near the Delaware Memorial Bridge since 1971. Croda International Plc acquired Uniqema in September 2006. Founded in 1950 and headquartered in the United Kingdom, Croda is a manufacturer and supplier of natural-based specialty chemicals for the personal care, pharmaceutical, household, and industrial markets. Croda Uniqema was responsible for preparation of the site's 2006 TRI data.



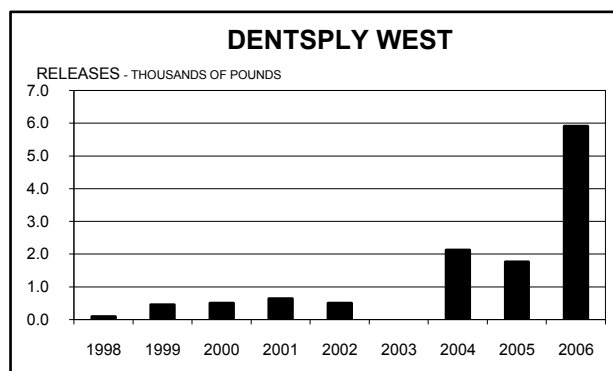
The Atlas Point facility manufactures products, known as surfactants, which promote the mixing of oil and water based ingredients in many consumer products, such as baby shampoo, shaving cream, mouthwash, pharmaceuticals, and many other personal care and industrial products.

Croda Uniqema reported on eleven chemicals for 2006. The majority (88%) of the on-site chemical releases were from ethylene oxide, methanol, and propylene

oxide. All on-site releases were to air. Croda Uniqema TRI releases increased 14% in 2004, 13% in 2005 and 8% in 2006 following a 40% decrease in 2003. Since 1998 overall site emissions have decreased 55%. These recent increases in 2004-2006 were the result of significant production increases, and a modification to the product portfolio in response to market conditions. In July 2005, Uniqema brought on line the first phase of a 20 million lb/year expansion to manufacture amine based chemicals. In 2006, the second phase of the expansion became operational.

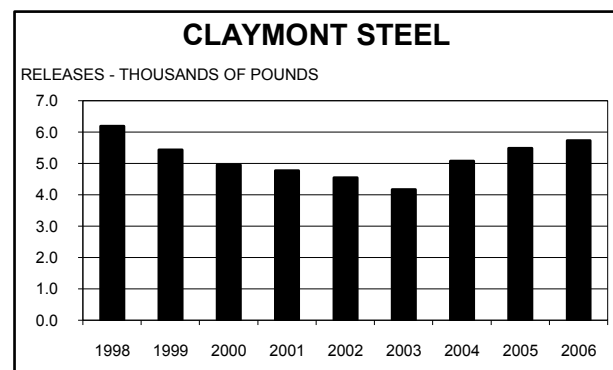
Rank #22 – Dentsply West – Dentsply produces a line of consumable products for the dental industry. These products include dental adhesives, dental impression materials, and restoratives. These products are used in dental maintenance and restoration applications. Caulk's East Masten Circle facility (Dentsply West) and the West Clarke Avenue facility (Dentsply Main) are located in Milford.

Dentsply West reported three TRI chemicals in 2006. The predominant chemical released on-site was toluene. It is used as a cleaning solvent in their process. On-site releases have increased significantly since 1988 because of increased production, addition of new equipment, and more accurate reporting methods. In 2006, the facility reported significant increases for toluene and methyl methacrylate (MMA). The MMA increase is the result of a higher production level in the first 8 months of this year (several weekends of running reactors) which accounts for the majority of the MMA increase. Additionally, Caulk had a new crew working with the MMA that contributed to the additional waste. The toluene increase is also the result of increased production requiring more cleaning of equipment. This facility did not submit any TRI reports for 2003.



Although several facilities in Delaware report on mercury compounds, the Dentsply Main facility is one of two facilities in the state that report on elemental mercury. Virtually all of their mercury is used in their products or recycled, with no reported on-site mercury releases.

Rank #23 – Claymont Steel - Located on a 425 acre site in Claymont, Claymont Steel, formerly known as CitiSteel, manufactures carbon steel plate for heavy industrial applications. The facility purchases and recycles over 500,000 tons of scrap steel annually and melts it in an electric arc furnace making this facility the largest recycler in the State of Delaware. The melted steel is cast into large slabs which are rolled into plate thicknesses from 1/4" to 5-1/2". The plates are sold throughout the entire United States.



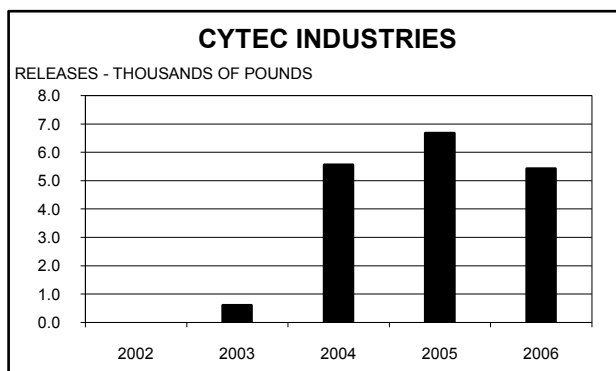
Claymont Steel reported on-site releases of seven metallic compounds and dioxin

compounds, for 2006. Most of the releases, 78%, were to air. Zinc compounds was the largest on-site release, at 50% of the total. For 2006, on-site releases increased 4.5%. The increase in the 2006 on-site amount total was due to a 16% increase in production compared to 2005.

In early 2006, in an effort to more accurately measure emissions and releases of toxic chemicals, Claymont Steel conducted tests on exhaust air leaving their dust collector. The results of these tests showed that in 2005 most chemicals were higher than previously reported, although one was lower. Mercury compounds, in particular, was higher than expected, reported at 361 pounds in 2005 compared to 36 pounds reported in 2004. Manganese and nickel compounds were also significantly higher in 2005, while lead compounds was 33% lower than reported in 2004. Because accurate reporting is important to the community and TRI, Claymont Steel conducted a second emissions test to verify the accuracy of the initial test. The two tests were done by different independent emissions testing contractors and laboratories. The amounts reported for 2005 were the result of the early 2006 test, and the amounts reported for 2006 are based on the results of both tests conducted in 2006. It is important to note that mercury emissions testing conducted so far in 2007 indicate further reductions in mercury emissions as a result of Claymont Steel implementing a comprehensive Mercury Source Reduction Program. Analysis also showed the presence of dioxins, and Claymont Steel reports the largest amount of on-site release of dioxins in the state for 2006.

In August 2006, as part of the Source Reduction Program, Claymont Steel joined with other stakeholders and the EPA in announcing the National Vehicle Mercury Switch Recovery Program. This program is designed to recover mercury switches used in lighting and braking systems in 2002 and older vehicles as they are being prepared for recycle. Mercury in these switches can contaminate steel scrap destined for recycling, and a portion of this mercury can be released to air during the steel melting process. Although Claymont Steel does not prepare vehicles for recycling, the company has committed to purchasing shredded automobile scrap steel from suppliers that are participating in the switch recovery program. Reported on-site releases of mercury compounds in 2006, at 320 pounds, were 11% lower compared to 2005 and further reductions are expected for reporting year 2007.

Rank #24 – Cytec Industries – Cytec Industries is a manufacturer of polymers used in commercial and military aerospace polymer composites. This facility is located in the Atlas Point area of New Castle. No Cytec reports were filed in 2001 and 2002 as the facility was part of an adjacent facility, Fujifilm (previously AVECIA).

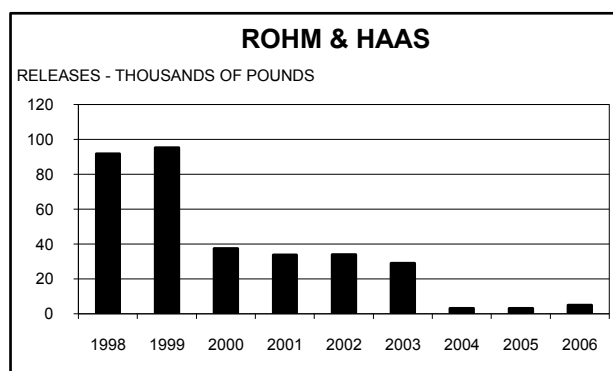


Cytec acquired the polymers operations in August 2003. The current facility began reporting as a separate facility in 2003, and the facility filed a partial year report for that year. The 2004 year was the first full year report for this facility. At the end of 2006, Cytec moved production to another state and the leased facilities reverted back to Fujifilm, who also reports to the TRI program. Any operations beyond 2006 at this site will be reported by the Fujifilm facility.

Cytec reported on one TRI chemical, methanol, for 2006. Methanol is recycled on-site and used as a processing aid. Larger amounts of methanol were also sent off site for treatment, and a small amount was sent off-site for energy recovery. Cytec reported a 20% production decrease in 2006, and on-site releases reflected this decrease.

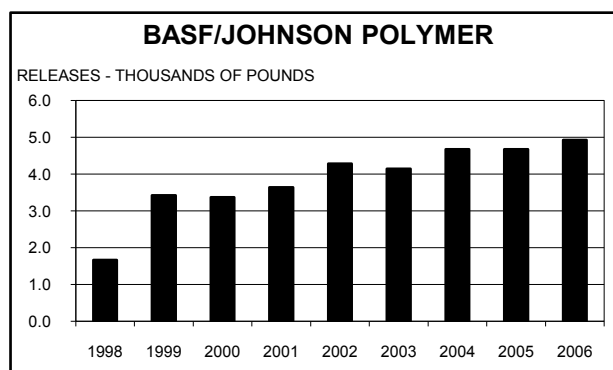
Rank #25 – Rohm & Haas/Rodel – Rohm & Haas manufactures polishing pads and slurries for the semiconductor, electronics, and glass industries. The facility is located south of Newark in the Diamond State Industrial Park.

Rohm & Haas reported on three TRI chemicals for 2006. Total on-site releases increased in 2006 as a result of an increase in production, but are only 6% of their 1998 levels. N,N-Dimethylformamide (DMF) is used as a solvent carrier in the polishing pad manufacturing process and accounted for the majority of their on-site releases. Releases of DMF mostly occur through evaporation from the poromerics coating and washing process. The majority of the DMF used is recycled in their distillation equipment for reuse in the process. All on-site releases of DMF were to air, and were primarily stack emissions from the scrubber and oxidizer used to control process emissions.

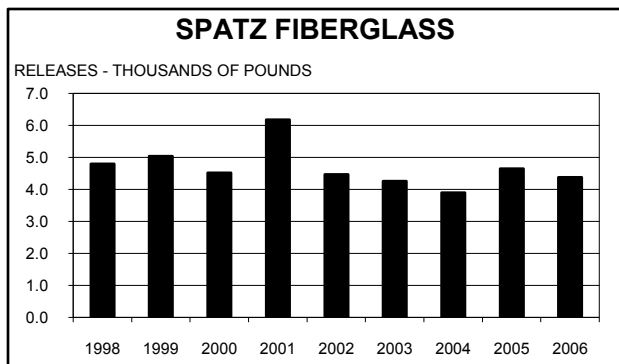


Rank #26 – BASF/Johnson Polymer – This facility, formerly known as Johnson Polymer, changed ownership in 2006. BASF was responsible for preparation of the 2006 TRI data for this facility. This BASF facility manufactures emulsion polymers, sometimes referred to as latex, primarily for the printing and packaging industries but also used as additives for paints and coatings. Typical customers include ink and coating manufacturers.

BASF reported on six TRI chemicals in 2006. The total amount of individual releases reported in 2006 increased by 5.5%, the result of a production increase. Ammonia was the highest on-site release. It is used to adjust pH in their process and accounted for 78% of all on-site releases. On-site releases of all chemicals have increased by 195% since 1998 primarily due to changes in methods used to more accurately estimate release amounts.



Rank #27 – Spatz Fiberglass – Spatz Fiberglass Products Inc. is a custom manufacturer of fiberglass for the corrosion resistant and molded products industries. Spatz manufactures three types of products: industrial fiberglass components, commercial gel-coated products, and architectural products. Industrial components include duct systems, pressure pipe, stacks, scrubbers, tanks, and fume hoods.

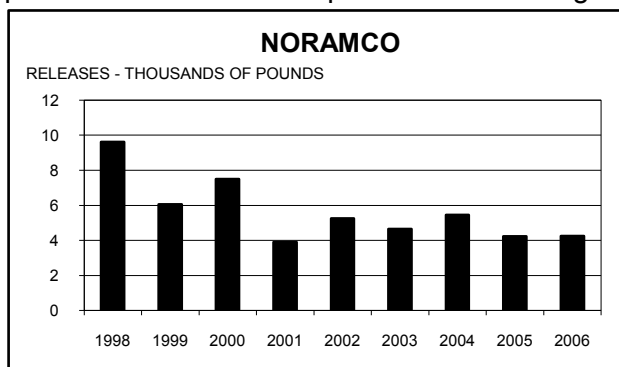


in on-site releases was due to more efficient fabrication practices and the use of products with lower Hazardous Air Pollutant (HAP) content.

Commercial products at Spatz Fiberglass include seats and tables for fast food restaurants and fish hatchery tanks, and architectural products consist primarily of cornices, columns, and landscaping products.

Spatz reports on one TRI chemical, styrene. It is used as a solvent in adhesives used to manufacture the fiberglass components. Although sales increased in 2006, reduction

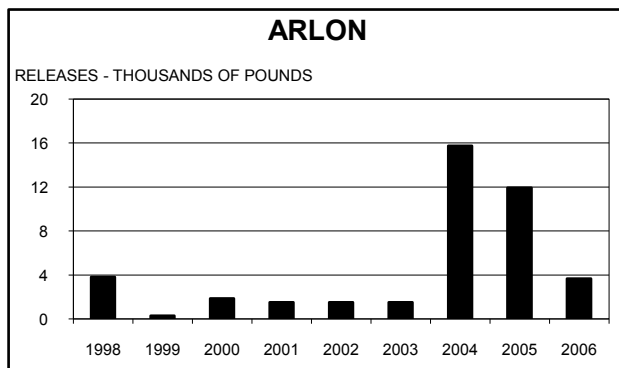
Rank #28 – Noramco – Located in Wilmington, Noramco was formed in 1979. Noramco produces bulk active pharmaceutical ingredients used in pain relief medicines. The pharmaceutical products are primarily sold to Johnson & Johnson pharmaceutical sector finishing facilities and several large generic pharmaceutical companies in the United States.



decreased to 44% of the 1998 amounts, with year-to-year variations reflecting the levels of production related to use of the specific chemicals, amounts of specific products produced, and efforts to reduce releases. For 2006, production increased in those processes using toluene and methanol, but decreased for those using methylene chloride. Efforts to reduce releases were focused on wastewater in 2006.

Noramco reported on-site releases of six TRI chemicals in 2006. Dichloromethane and methanol made up 72% of the total on-site releases. All on-site releases were to air. Noramco on-site releases have

Rank #29 – Arlon – Arlon specializes in ceramic-filled fluoropolymers (i.e. PTFE) and other laminates that are used in frequency-dependent circuit applications such as base stations and antennas for wireless telecommunications.



Arlon also produces precision calendared silicone rubber coated fabric sheets and specialty extruded silicone rubber tapes.

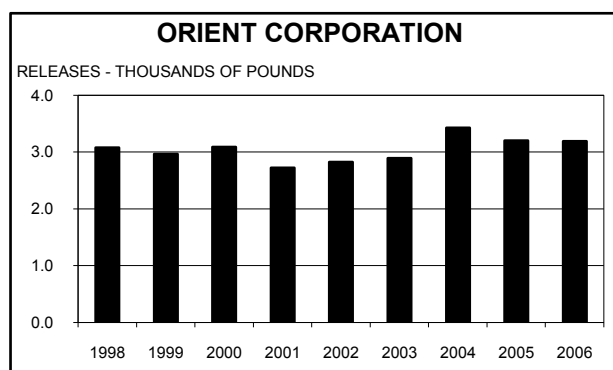
Arlon reported three TRI chemicals, ethylbenzene, xylene and copper, in 2006. Arlon uses xylene as a chemical processing aid in the coating of fiberglass with the silicone rubber dispersion. Ethylbenzene is a component found in many commercial grades of xylene. Copper is used in the

antenna assemblies, and over 97% of the copper waste was recycled. An on-site thermal oxidizer system destroys the majority of solvents used in the coating process.

On-site release amounts increased significantly in 2004 because of a failure in the heat exchanger in the thermal oxidizer system. The heat exchanger was repaired in September 2005, and the release amount returned to near historical levels in 2006.

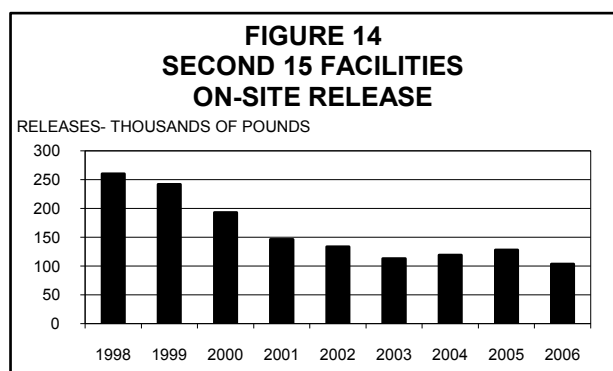
Rank #30 - Orient - Orient Corporation of America was established in Port Newark, NJ in 1979. Its parent company, Orient Chemical Industries, Ltd., is located in Osaka, Japan and was established in 1917. Orient distributes various dyes, pigment dispersions and charge control agents.

In order to meet the increasing demand for its products, Orient Corporation of America moved its manufacturing operations to Seaford, Delaware in 1991 where it constructed a new manufacturing facility for the production of Nigrosine Dye, a product used in phenolic and polyamide resins and special paints. Orient supplies a large share of domestic demand for this type of dye.



Orient reported on four TRI chemicals for 2006. All on-site releases were to air and were unchanged for 2006. Aniline was the predominant on-site release and accounted for 92% of the total. Nitrobenzene accounted for the remaining 8% on-site release. Aniline and nitrobenzene are used in the production of dyes. Chromium and zinc compounds are purchased and sold as is, with no releases. Small amounts of aniline and nitrobenzene were also sent off-site for treatment, and additional aniline waste was also treated on-site. Although production levels have increased 19% since 1998, on-site releases have increased only 4%, the result of higher efficiency due to lengthening of the production cycle and a corresponding reduction of startup/shutdown times.

Combined Second 15 Facilities Trend - Figure 14 shows the totals for the facilities ranked #16-30 for reported on-site releases. The trend is down by 22% for 2006 and 60% since 1998. This trend shows a greater percent decrease than the top 15 group, which had a 1% increase since 1998. Because of the decrease in amounts of the Second 15 group, its contribution to the state total decreased from 3% in 1998 to 1% in 2006. Facilities in the Second 15 group tend to be more closely spaced in their rankings with regard to pounds released on-site. This adds to the variability in rankings from year-to-year as individual facility releases vary in their normal course of operations.



Persistent Bioaccumulative Toxic (PBT) Chemicals, 2000-2006

For reporting year 2000 and beyond, EPA established substantially lower reporting thresholds for 15 chemicals and 2 chemical categories that are highly persistent and bioaccumulative in the environment (PBTs). Six chemicals and one new category were also added to the PBT list in 2000. The new thresholds apply regardless of whether the PBT chemical is manufactured, processed, or otherwise used. Table 7 provides a list of these PBT chemicals and their thresholds.

TABLE 7
PBT CHEMICALS AND
REPORTING THRESHOLDS
(pounds/year)

Chemical or Chemical Category	Threshold (Pounds)	2006 REPORTS
Aldrin	100	0
Benzo[g,h,i]perylene	10	10
Chlorodane	10	0
Dioxin and dioxin-like compounds category	0.1 grams	7
Heptachlor	10	0
Hexachlorobenzene	10	1
Isodrin	10	0
Lead	100	3
Lead and lead compounds	100	14
Mercury	10	2
Mercury compounds	10	7
Methoxychlor	100	0
Octachlorostyrene	10	1
Pendimethalin	100	0
Pentachlorobenzene	10	2
Polychlorinated biphenyls (PCB's)	10	1
Polycyclic aromatic compounds category	100	12
Tetrabromobisphenol A	100	0
Toxaphene	10	0
Trifluralin	100	0

Persistent Bioaccumulative Toxics (PBTs) are receiving increased scrutiny as we learn more about them, and reporting PBTs is also being emphasized to an increasing degree. These chemicals are of particular concern because they are not only toxic, but also because they remain in the environment for long periods of time, are not readily destroyed, and accumulate in body tissues. Beginning with reporting year 2001, the thresholds for lead and lead compounds were reduced to 100 pounds, down from the previous 25,000 pounds for manufactured and processed and 10,000 pounds for otherwise used, except lead contained in stainless steel, brass, or bronze alloys.

Not all of the PBT chemicals released in prior years were reportable, even though it is likely these chemicals were released at, or near, the current reported rate if the facility had no significant change in its operation. For example, 21 facilities reported lead or lead compounds in 2002 and 2001 and 19 in 2003 compared to 7 in 2000. All of these facilities were in operation prior to 2001. Dover Air Force Base (DAFB)

Small Arms Range was the top reporter for on-site lead release in 2001, but did not report any lead release for 2002-2006. Although at least two Executive Orders, 12856 and 13148, encourage Federal facilities to set leadership examples in reporting information to the public regarding toxic and hazardous chemicals, the DAFB claims that the Small Arms Range, on the grounds of the base, is a separate facility and is exempt since it has less than 10 full-time employees. Although DAFB did report a small amount of one fuel-based chemical in 2006, it used a TRI-allowable exemption to exclude other non-PBT TRI chemicals on the base that might otherwise be reportable.

Additional release information on all PBTs reported to the Delaware TRI program can be found starting on the next page.

Table 8 shows the results of PBT reporting for 2003-2006 compared to total 2006 TRI data. PBT on-site releases for 2006 comprise about 0.32% of the total TRI on-site releases. Total reported PBT wastes decreased by 2.04 million pounds (36%) in 2006, largely because of decreased off-site recycle, but PBT on-site releases were higher by 3,060 pounds (9.4%). PBT reports could be filed on Form A for the first time in 2006, as explained on page 3. Six reports were filed using Form A, so this may have influenced some or all of the amounts, although the total of 60 PBT reports is close to the count of 2005.

Table 9 below shows the amounts of each PBT chemical reported as released by the TRI reporting facilities in 2006. Lead compounds, largely released from coal-fired power plants, made up 96% of the total on-site PBT releases. Over 95% of the transfers off-site were largely for lead compounds recycle from Johnson Controls. Almost the entire amount of mercury transferred off-site was for recycle from the closure of the Occidental Chemical chlor-alkali facility.

TABLE 8
2006 TRI PBT DATA SUMMARY
(REPORTED AMOUNTS IN POUNDS)

	All Data 2006	PBT's only 2006	PBT's only 2005	PBT's only 2004
No. of facilities	70	26	28	26
No. of Form A's	45	6	NA	NA
No. of Form R's	286	54	61	60
No. of Chemicals	100	11	11	11
On-site Releases				
Air	6,343,159	4,076	4,095	3,797
Water	4,023,844	1,405	1,857	1,002
Land	804,512	30,270	26,559	27,356
Total On-Site	11,171,515	35,750	32,510	32,154
Off-site Transfers				
POTW's	1,421,321	7	11	186
Recycle	8,425,272	3,451,059	5,488,166	4,293,112
Energy Recovery	4,200,803	0	1	0
Treatment	237,073	4	12	0
Disposal	4,739,121	66,199	80,633	66,217
Total Transfers	19,023,590	3,517,268	5,568,822	4,359,516
On-site Waste Mgmt.				
Recycle	10,594,593	54,993	50,619	10,603
Energy Recovery	17,937,031	0	0	0
Treatment	39,516,068	769	749	766
Total on-site Mgmt.	68,047,692	55,762	51,368	11,369
Total Waste	98,242,798	3,608,781	5,652,701	4,403,039

TABLE 9
2006 TRI PBT RELEASE BY CHEMICAL
(REPORTED AMOUNTS IN POUNDS)

2006 PBT CHEMICAL	FORM R	FORM A	ON-SITE RELEASES				TRANSFERS OFF SITE	ON-SITE WASTE MGMT.
			TOTAL AIR	TOTAL WATER	TOTAL LAND	ON-SITE TOTAL		
BENZO (G,H,I)PERYLENE	7	3	1.18	4.30	0.00	5.48	0.00	422.00
DIOXIN AND DIOXIN-LIKE COMPOUNDS	7	0	0.02	0.00	0.00	0.03	62.85	0.00
HEXACHLOROBENZENE	1	0	0.01	0.40	0.00	0.41	2,044.10	0.00
LEAD	3	0	3.50	6.00	0.00	9.50	0.00	54,990.00
LEAD COMPOUNDS	14	0	2,846.99	1,380.62	30,151.02	34,378.63	3,351,999.47	0.00
MERCURY	2	0	44.17	6.94	0.00	51.11	162,749.28	0.00
MERCURY COMPOUNDS	7	0	685.10	3.00	119.00	807.10	68.57	0.00
OCTACHLOROSTYRENE	1	0	0.01	0.00	0.00	0.01	179.40	0.00
PENTACHLOROBENZENE	2	0	16.31	0.06	0.00	16.37	21.40	0.00
POLYCHLORINATED BIPHENYLS (PCB's)	1	0	0.00	0.00	0.00	0.00	38.28	0.00
POLYCYCLIC AROMATIC COMPOUNDS	9	3	478.23	3.53	0.00	481.76	104.86	350.15
TOTALS	54	6	4,075.51	1,404.85	30,270.02	35,750.39	3,517,268.20	55,762.15

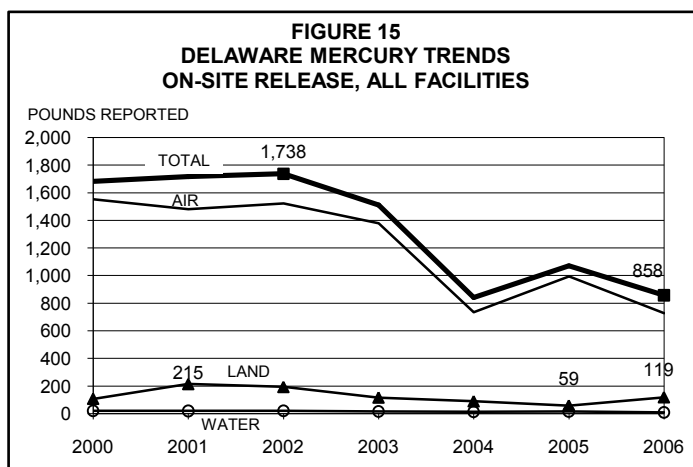
Source: 2006 DNREC Database December 2007

Dioxins are reportable in grams and have been converted to pounds.

PBT's eligible to report on Form A starting in 2006 in some cases

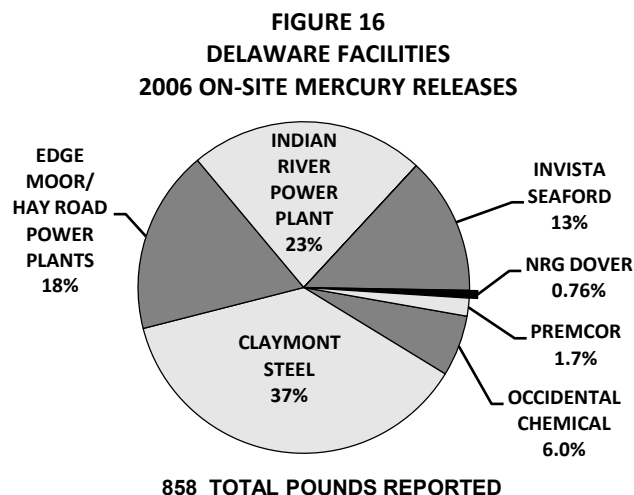
Halko again reported the top amount of on-site PBT chemical waste management with 53,650 pounds of lead being recycled on-site. Appendix I shows the PBT data detail, listing each facility reporting on each PBT chemical. Also, see additional facility information in the Top 15/Second 15 sections regarding reasons for changes in reports from other PBT-reporting facilities.

Mercury and Mercury Compounds



Mercury (elemental mercury) and mercury compounds are an important part of the PBT category, and this section discusses some of the data in these reports. Overall total mercury and mercury compounds releases in Delaware for 2006 have decreased by 51% compared to the peak of 1,738 pounds in 2002. Figure 15 shows the combined trend for mercury and mercury compounds. We can also expect significant reductions in the future as a result of Delaware's Multi-p rule (see page 58) starting in 2009.

Reported **elemental mercury** on-site release amounts were lower by 227 pounds (82%) as Occidental Chemical transitions through its chlor-alkali plant shutdown. Occidental Chemical sent about 157,000 pounds of mercury off-site for recycling in 2006 as part of the shutdown activity starting November 2005. Occidental contributed virtually all 51 pounds of elemental mercury released on-site in 2006, but this amount will continue to substantially decline as the facility completes its shutdown. DNREC had requested verification of Occidental's mercury release amounts, as we suspected that the reported amounts are not as accurate as available technology can provide. Results of this verification indicate that the original EPA estimates for fugitive mercury release were too high for this facility. As a result, had the facility remained in operation, it may have reported significantly lower amounts of mercury released to air.



Reports of on-site releases of **mercury compounds** by Delaware facilities varied with their normal changes in operations, and increased 13 pounds (1.6%) in 2006.

Figure 16 shows the percentage contributed by each of the facilities that reported a mercury or mercury compound release in 2006. Two facilities, Dentsply Caulk Lakeview and Intervet, were required to report because of mercury activity, but did not have any mercury on-site releases to report in 2006. On-site release amounts for mercury and mercury compounds can be found in Appendix F on pages F-11 and F-12.

Carcinogenic TRI Chemicals

Some chemicals are reportable under TRI because they are either known or suspected human carcinogens. Known human carcinogens are those that have been shown to cause cancer in humans. Suspected carcinogens are those that have been shown to cause cancer in animals. Table 10 contains those known and suspected carcinogens that were reported by Delaware facilities for 2006. Next to each chemical is its International Agency for Research on Cancer (IARC) rating as a: Known (1), Probable (2A), or Possible (2B) carcinogen. Polycyclic aromatic compounds is a class of chemicals with chemicals in both 2A and 2B IARC classifications. Of the 11.2 million pounds of TRI chemicals reported by facilities as released on-site to the environment in 2006, 3.7% (394,472 pounds) were known or suspected carcinogens. Releases on-site of all carcinogens decreased 4% (16,418 pounds) compared to 2005 data and decreased 54% (462,439 pounds) since the peak in 1998. For additional information on cancer rates and causes, please go to the Public Health cancer web site listed in the "For Further Information" section on page 62.

Carcinogens Trend, 1995-2006

The number of carcinogen reports decreased by 3 to 100 in 2006, and the total number of carcinogen chemicals decreased by one to 32 following a large increase in the number of lead and lead compounds reporting facilities in 2001 (because of the reduced reporting threshold). Additional information on lead and lead compounds is in the PBT section on pages 35-37.

Table 11 on the next page contains amounts unadjusted for changes in reporting requirements. In order to put the trend in uniform perspective, adjustments must be made for changes in reporting requirements during this period. The downward trends of both unadjusted and adjusted values are shown in Figure 17 on the next page. Chemical reports required during a portion of the time period because of changes in reporting requirements have been excluded for the entire period in the "adjusted" trend.

TABLE 10
CARCINOGENS REPORTED BY
DELAWARE FACILITIES FOR 2006

CHEMICAL NAME	IARC	NO. OF REPORTS
Arsenic	1	1
Arsenic Compounds	1	2
Benzene	1	5
Chromium Compounds	1	9
Ethylene Oxide	1	2
Nickel Compounds	1	6
Vinyl Chloride	1	1
1,3-Butadiene	2A	2
4,4'-Methylenebis(2-Chloroaniline)	2A	2
Acrylamide	2A	1
Diethyl Sulfate	2A	1
Formaldehyde	2A	1
Polychlorinated Biphenyls	2A	1
Trichloroethylene	2A	1
Polycyclic Aromatic Compounds	2A,B	12
Acrylonitrile	2B	1
Cobalt Compounds	2B	3
Dichloromethane	2B	1
Ethyl Acrylate	2B	2
Ethylbenzene	2B	3
Hexachlorobenzene	2B	1
Lead	2B	3
Lead Compounds	2B	14
Naphthalene	2B	7
Nickel	2B	3
Nitrobenzene	2B	1
P-Chloroaniline	2B	1
Propylene Oxide	2B	1
Styrene	2B	6
Tetrachloroethylene	2B	1
Toluene Diisocyanate (Mixed Isomers)	2B	3
Vinyl Acetate	2B	2
TOTAL =		100

Source: 2006 DNREC Database, November, 2007

TABLE 11
1995-2006 TRI CARCINOGENS
REPORTED ON-SITE RELEASES IN POUNDS, NOT ADJUSTED

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
KNOWN												
AIR	253,818	225,184	192,099	209,094	219,970	209,828	209,295	177,473	123,191	96,562	98,107	66,475
WATER	596	201	6,917	10,246	3,048	4,395	9,114	9,682	9,339	9,817	4,643	5,222
LAND	1,791	331	286,041	363,793	306,630	258,008	169,197	170,074	312,576	173,414	134,194	150,715
KNOWN TOTAL	256,205	225,716	485,057	583,133	529,648	472,231	387,606	357,229	445,106	279,793	236,944	222,412
PROBABLE												
AIR	113,482	78,491	55,274	53,558	139,293	55,418	44,326	35,581	24,216	27,417	23,600	18,946
WATER	0	0	0	0	0	0	0	0	4	4	4	4
LAND	0	0	0	0	0	0	0	0	0	0	0	0
PROBABLE TOTAL	113,482	78,491	55,274	53,558	139,293	55,418	44,326	35,581	24,220	27,421	23,604	18,950
POSSIBLE												
AIR	331,904	344,888	223,518	167,420	186,506	135,946	91,851	189,296	98,269	97,283	102,427	102,415
WATER	359	351	196	1,175	290	271	4,873	2,109	1,431	2,308	3,416	1,544
LAND	0	5	2,550	51,625	142	40	21,607	17,475	21,714	49,266	44,500	49,151
POSSIBLE TOTAL	332,263	345,244	226,264	220,220	186,938	136,257	118,331	208,880	121,414	148,856	150,343	153,110
TOTAL AIR	699,204	648,563	470,891	430,072	545,769	401,192	345,472	402,350	245,676	221,262	224,135	187,836
TOTAL WATER	955	552	7,113	11,421	3,338	4,666	13,987	11,791	10,773	12,129	8,062	6,770
TOTAL LAND	1,791	336	288,591	415,418	306,772	258,048	190,804	187,549	334,290	222,680	178,694	199,866
GRAND TOTAL	701,950	649,451	766,595	856,911	855,879	663,906	550,263	601,690	590,739	456,071	410,890	394,472

Source: DNREC TRI2006 Database, November 2007

These adjustments generally exclude the power-generating and ore-processing industries, and involve metallic compounds produced from impurities in the fuel and raw materials used by these facilities. These facilities were required to start reporting in 1998. Adjustments occurring in this period affected the air, water, and land release amounts. For example, new reports for lead and lead compounds at their lower thresholds starting in 2001 accounted for 34,388 pounds of exclusions in 2006. Lead and lead compounds reports under the higher thresholds were not excluded if the facility was already reporting them for 2000 or before. In either the adjusted or unadjusted trend, the downward trend continued in 2006. Additional carcinogen detail is reported in Appendix J.

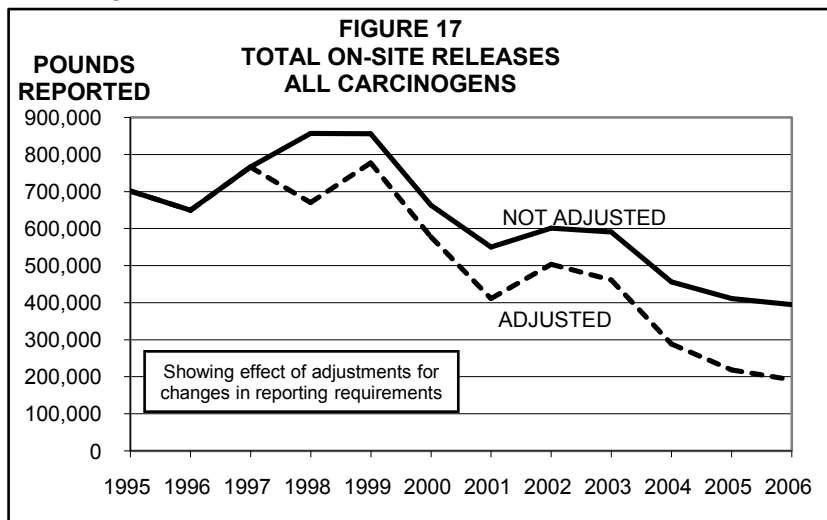


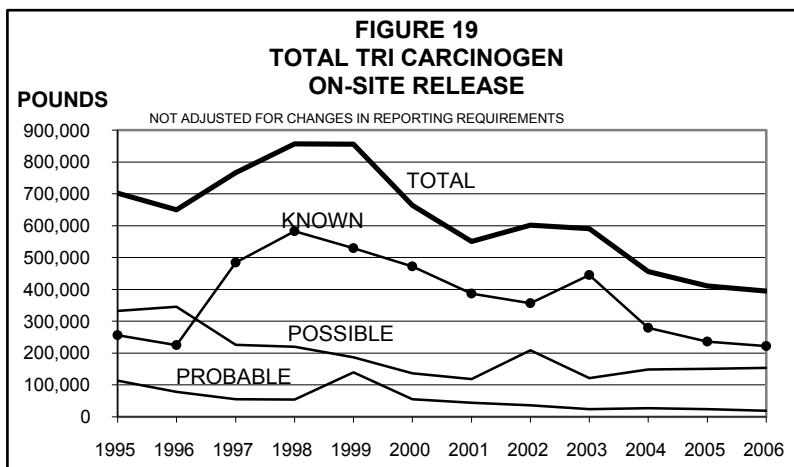
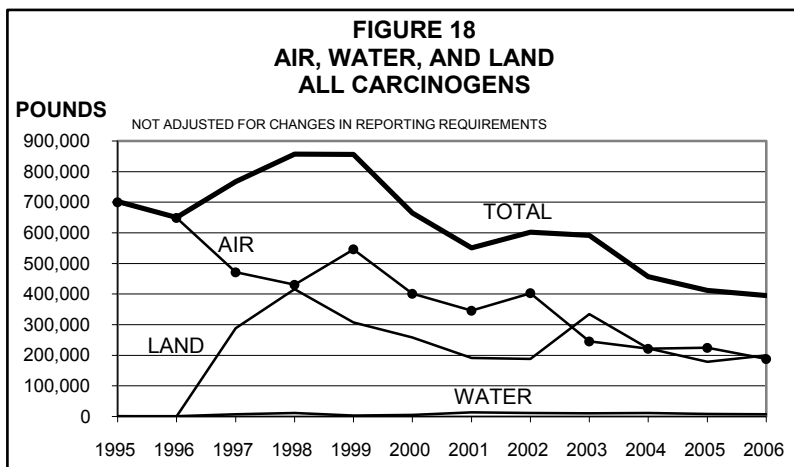
Figure 18 shows the effects of each of the media category releases on the total reported carcinogen release trend. As in Figure 17, note the downward trend. Releases to air and land equally influence the total, while releases to water play a minor part.

Known Carcinogens

Figure 19 shows the trend of each of the three carcinogen groups and their effect on the total on-site release. Reported releases to land of known carcinogen compounds were 75% of on-site land releases for carcinogens in all categories (known, probable, and possible). Chromium compounds, a product of fuel combustion, 96% of which are released to land, are the highest carcinogen released to land at 72,683 pounds, with the Indian River Power Plant and INVISTA contributing over 99% of these land releases. Nickel compounds, 86% released to land, are second highest of the three land releases in the known carcinogen category at 47,032 pounds. The Indian River Power Plant reported almost all of the nickel compounds releases to land for 2006.

From 1997-2000, the land release reports of nickel compounds, a product of fuel combustion at Premcor, greatly influenced the values for known carcinogens. Their 1997 value was 283,000 pounds. Now, the ash and chemicals in the ash are transferred out-of-state for waste management. Arsenic compounds, the remaining known carcinogen released to land, was all released by the Indian River Power Plant in the form of ash. Arsenic compounds accounted for 31,000 pounds of the total known carcinogen release to land.

Reported releases to air of known carcinogens decreased by 32% in 2006 and are now at 26% of the peak in 1995. Vinyl chloride contributed 58% of the known carcinogen category air releases in 2006. Vinyl chloride constitutes 21% of all carcinogen air releases and 10% of carcinogen total on-site releases for air, water, and land in 2006. Vinyl chloride, with a total release to air of 38,542 pounds and only reported by Formosa Plastics, is highest in total releases in the known carcinogen category. Kaneka reported vinyl chloride up until 2003, but Kaneka is now closed. Benzene releases to air, almost all from Premcor and Sunoco, have declined from 58,000 pounds in 1995 (from Premcor and the now closed Metachem facility) to 14,982 pounds in 2006. Benzene made up 23% of the known carcinogen releases to air.



Releases to water of on-site of known carcinogens were 2.4% of the known carcinogen total for 2006. Nickel compounds contributed 84% of all the known carcinogen releases to water, with chromium compounds contributing 16%. Arsenic compounds and vinyl chloride contributed less than 0.1% each.

Probable Carcinogens

Virtually all of the 18,950 pounds of six probable carcinogens was reported released to on-site air during 2006. The largest air release contributors were trichloroethylene, reported by Camdel Metals, and 1,3,-butadiene, reported by Dow Reichhold. They combined for 86% of the probable carcinogen releases. The trend for trichloroethylene release declined 5,828 pounds from 2005-2006 and has declined 68% from 1995-2006, down from 29,332 pounds in 1995 to 9,505 pounds in 2006. The trend for 1,3,-butadiene, reported by Premcor and Dow Reichhold, is up 1,076 pounds in 2006 to 6,865 pounds but is only 9.5% of the 72,439 pounds reported in 1995. Premcor was responsible for all of the reported increase in 2006. The total probable carcinogen air release high in 1999 (139,293 pounds) was due to an 83,000-pound reported release of formaldehyde from Premcor. The probable carcinogen total for 2006 is down 4,654 pounds (20%) for 2005-2006 and is now at 18,950 pounds. This is 17% of the 1995 amount and 14% of the 1999 amount.

Possible Carcinogens

There are 17 chemicals in this category for 2006, two less than reported for 2005. About two-thirds of the total amount is reported released to air, one-third to land, and about 1% to water. The highest chemical release in this category is vinyl acetate at 44,060 pounds, 99% of which was reported released by Formosa Plastics. The Formosa Plastics release was estimated using a higher basis starting in 2002. Although the Formosa reported amount of 43,487 pounds for 2006 is much higher than the 2,000 pounds reported for 2001, the actual amount from prior years may not be much different because of the change in basis in 2002. Styrene is the second highest possible carcinogen category release, and 52% of the styrene reported released to air was at Dow Reichhold when a tank car at the facility containing styrene monomer spontaneously polymerized. Justin Tanks reported 12,489 pounds, 31% of the total styrene release for 2006, and the remainder was split between smaller releases at four other facilities. Lead compounds and cobalt compounds are the third and fourth highest amounts reported released in this category. The majority of these releases, 88% of lead compounds and 95% of cobalt compounds, were to land, the by-product of fuel burned for power generation at the Indian River and INVISTA power plants.

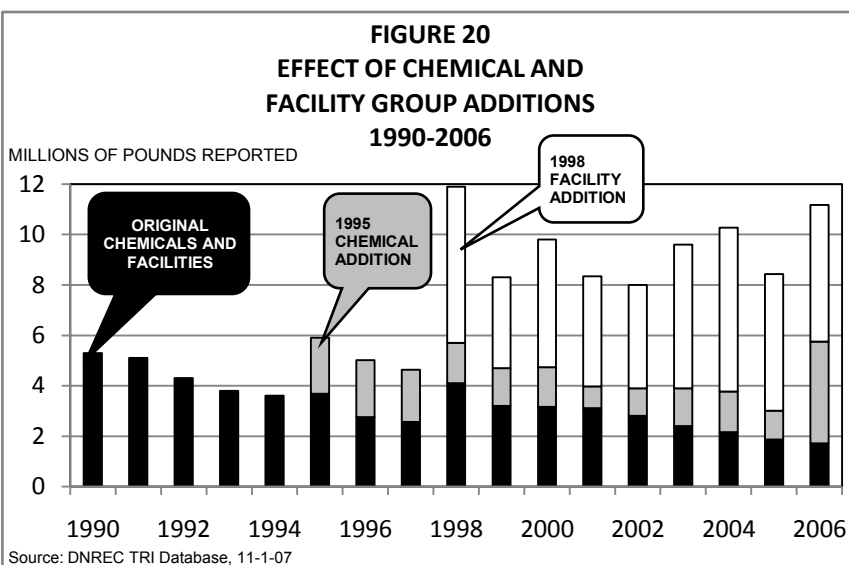
As before, in **Limitations of TRI Data** on Pages 3-4, we urge caution when using this data, as THIS DATA DOES NOT INDICATE AMOUNT OF HUMAN EXPOSURE.

Discussion about specific facilities and their releases can be found on pages 16-34 in the Top 15 and Second 15 Facilities Sections.

Trend Analysis

Effect of Chemical and Facility Group Additions, 1990-2006

As mentioned on page 5, significant groups of chemicals and facilities were added to the TRI program at two times over the years. Other smaller groups, or even individual chemicals, were also added or deleted over this time. Figure 20 shows these effects starting in 1990 and following the trend of each group since it was added to the TRI program. Data from the beginning of the TRI



program in 1987-89 is excluded because reporting requirements changed significantly and a valid comparison of this data with later data is not feasible.

The trend of each group and the reports affecting the trends will be discussed in the following portions of this Trends Analysis section. All groups show generally decreasing trends over time, but the group of chemicals added in 1995 did report an increase in 2006 of 2.9 million pounds, primarily because of a Premcor nitrate compounds report discussed in the following pages. The table below shows the amount reported in millions of pounds for each group at the time it was added, the 2006 reported amount, and the amount of change since the time it was added. If each group had remained constant at the time of its addition, amounts reported for 2006 would be 13.73 million pounds instead of the 11.17 million pounds actually reported in 2006. The reporting facilities in Delaware have effected a reduction of 2.56 million pounds, or 19%, in their reported TRI chemical releases since 1990.

GROUP	STARTING YEAR AMOUNT Millions of Pounds	2006 AMOUNT Millions of Pounds	CHANGE SINCE STARTING Millions of Pounds
Original Facilities and Chemicals	5.30	1.71	-3.59
1995 Chemical Addition	2.23	4.03	+1.80
1998 Facility Addition	6.20	5.43	-0.77
TOTAL	13.73	11.17	-2.56

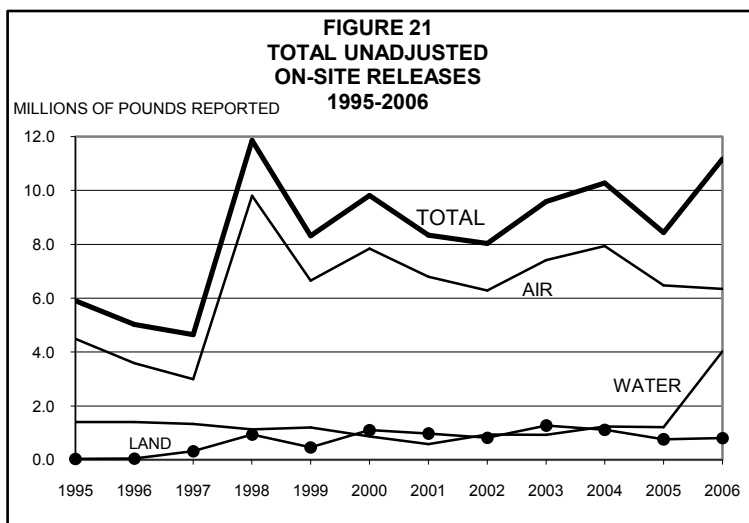
Unadjusted Trends, 1995-2006

TRI data is available back to 1987. Changes in reporting requirements over time have caused an increase both in the number of chemicals and in the number industries subject to reporting. As explained on page 5, two of the most significant changes to TRI reporting occurred in 1995 and 1998, when large increases in chemicals (1995) and industries subject to reporting (1998) occurred. This section shows the results including the 1998 addition. Later sections show data on a constant reporting basis with adjustments made for the 1998 data.

The analysis presented in this section uses 1995 as a base year for presenting trends for all reportable chemicals and facilities and is **not adjusted** for changes in reporting requirements. Figure 21 below shows the on-site release trends during the entire 1995-2006 period and Table 12 on the next page shows amounts reported for the last 10 years. For comparison, please read the explanation for **adjusted trends** on page 46 and look at the corresponding adjusted amounts in Table 13 on page 47.

On-Site Releases, Unadjusted, 1995-2006

On-site releases include emissions to the air, discharges to bodies of water, and releases at



the facility to land including placement in on-site landfills. Figure 21 shows the trend of on-site releases without adjustments. The increase in 1998 was due to the change in reporting requirements when a large number of new facilities started to report, as explained above and also on page 5. Unadjusted on-site release amounts increased 32% (2,735,000 pounds) since 2005. Significant changes reported in 2006 include the facilities and chemicals shown in the table below.

FACILITY	CHEMICAL	MEDIA	CHANGE (pounds)
Premcor	Nitrate Compounds	Water	+2,510,000
Perdue Georgetown	Nitrate Compounds	Water	+285,000
Edge Moor/Hay Rd. Power Plants	Hydrochloric acid	Air	+130,000
DuPont Edge Moor	Manganese Compounds	Water	-95,000
Indian River Power Plant	Hydrochloric acid	Air	-200,000

Some of these changes (higher or lower) like the nitrate compounds reported by Premcor have been caused by improvements in the way facilities estimate amounts. Many of these changes were discussed in the Top 15 or Second 15 facility profiles on pages 16-34. In addition, you may contact the facility for a more in-depth discussion of the reasons for specific changes.

TABLE 12
1997-2006 TRI DATA SUMMARY

(IN POUNDS)

NOT ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
No. of Facilities	74	80	76	80	82	83	85	74	73	70
No. of Form As	34	75	72	61	57	55	55	52	53	45
No. of Form Rs	242	277	254	310	316	317	326	308	294	286
No. of Chemicals	100	106	101	109	104	106	103	102	103	100
On-site Releases										
Air	2,995,461	9,796,431	6,651,166	7,841,017	6,796,684	6,281,850	7,408,938	7,935,898	6,472,074	6,343,159
Water	1,328,937	1,126,527	1,197,861	866,312	573,937	928,813	916,287	1,231,061	1,211,798	4,023,844
Land	317,243	937,708	462,579	1,103,632	965,666	814,385	1,263,668	1,111,392	752,894	804,512
Total Unadjusted On-site Release	4,641,641	11,860,666	8,311,606	9,810,961	8,336,287	8,025,048	9,588,893	10,278,351	8,436,766	11,171,515
Off-site Transfers										
POTW's	4,301,095	3,286,302	2,996,401	2,199,807	1,575,732	1,201,161	1,452,241	1,466,465	1,514,246	1,421,321
Recycle	10,612,518	12,002,926	9,295,315	8,649,678	8,845,326	9,248,730	8,372,985	9,847,812	11,265,908	8,425,272
Energy Recovery	1,663,440	1,491,543	1,389,936	2,543,840	2,642,626	2,538,090	2,834,075	2,755,903	2,709,850	4,200,803
Treatment	688,661	630,761	894,822	901,604	183,567	398,572	370,126	179,969	199,493	237,073
Disposal	4,010,594	3,983,506	3,056,466	3,816,862	3,878,689	4,196,691	4,084,899	3,919,599	4,400,539	4,739,121
Total Transfers	21,276,308	21,395,038	17,632,940	18,111,791	17,125,940	17,583,245	17,114,325	18,169,747	20,090,037	19,023,590
On-site Waste Mgmt.										
Recycle	32,996,062	34,549,050	32,671,856	31,188,694	24,133,885	25,033,817	22,404,667	8,772,135	10,079,028	10,594,593
Energy Recovery	19,255,280	16,155,665	22,981,591	29,095,221	25,863,740	15,740,469	16,455,440	23,595,635	19,786,104	17,937,031
Treatment	69,425,233	68,475,327	69,501,151	64,404,879	40,734,134	33,392,650	30,305,786	31,654,455	38,176,991	39,516,068
Total On-site Mgmt.	121,676,575	119,180,042	125,154,598	124,688,794	90,731,759	74,166,935	69,165,893	64,022,225	68,042,123	68,047,692
Total Waste	147,594,524	152,435,746	151,099,144	152,611,546	116,193,986	99,775,229	95,869,110	92,470,323	96,568,926	98,242,798

NOT ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS EXCEPT PBT'S AS NOTED

SOURCE: DNREC 2006 DATABASE, NOVEMBER 2007

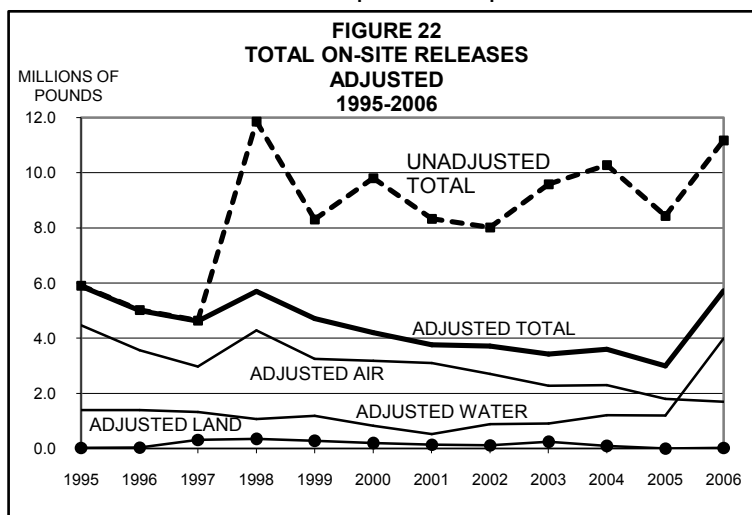


Adjusted Trends, 1995-2006

When the new facilities that were added in 1998 are removed from the trends, the adjusted result is shown in Table 13 on the next page and Figure 22 below. Table 13 shows the adjusted amounts of TRI chemicals in all categories that were reported in 1997-2006. This table is adjusted to show only those facilities and chemicals that were reporting in 1995. The year 1995 is used as a base year because a large group of chemicals was added that year, and facilities and chemicals added after 1995 are not included in this trend. For comparison, please look at the corresponding unadjusted values in Table 12 on page 45.

On-Site Releases, Adjusted, 1995-2006

Overall, reported **adjusted** on-site releases increased 91% (2,721,871 pounds) from 2005 because of the nitrate compounds report from Premcor noted on page 44 and in the Premcor



facility profile on page 18. Because of this report, reported releases to water increased 135% since 1995. Since 1995, on-site releases to air were down 62% and on-site releases to land were down 8%. The total on-site adjusted amount is down 3% compared to 1995. Data on this page and in Table 13 can be compared to pages 44-45 to see the effects of the adjustments, and the top two lines in Figure 22 show the effect of the new facilities when they are removed

from the unadjusted totals. Figure 21 on page 44 shows all reports, including the new facility additions in 1998. Significant changes for 2006 in reports not mentioned in the unadjusted trend on page 44 are shown in the table below.

FACILITY	CHEMICAL	MEDIA	CHANGE (pounds)
INVISTA	Nitrate Compounds	Water	+70,000
Perdue Georgetown	Ammonia	Air	+38,000
INVISTA	Hydrochloric acid	Air	+30,000
Premcor	Hydrochloric acid	Air	-32,000
Formosa Plastics	Vinyl chloride	Air	-33,000
Formosa Plastics	Ammonia	Air	-42,000

Some of these changes have been caused by improvements in the way facilities estimate amounts. Others, such as the Formosa Plastics vinyl chloride report showing a 33,000-pound reduction, were process changes. Many of these changes were discussed in the Top 15 or Second 15 facility profiles on pages 16-35. In addition, the reader may contact the facility for a more in-depth discussion of the reasons for specific changes.

TABLE 13
1997-2006 TRI DATA SUMMARY
(IN POUNDS)

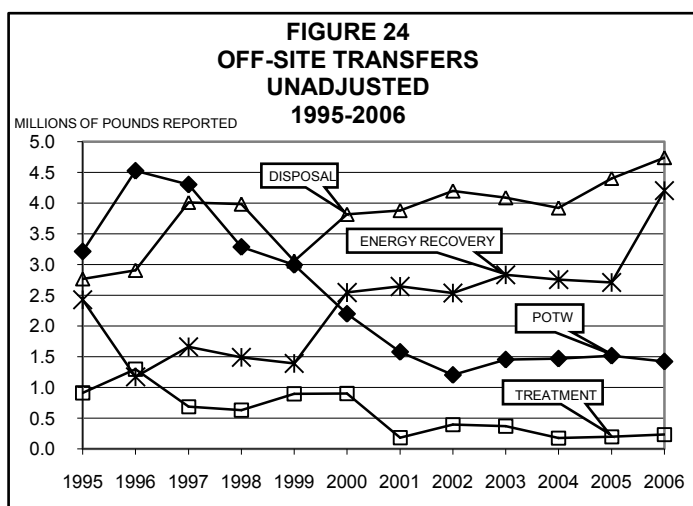
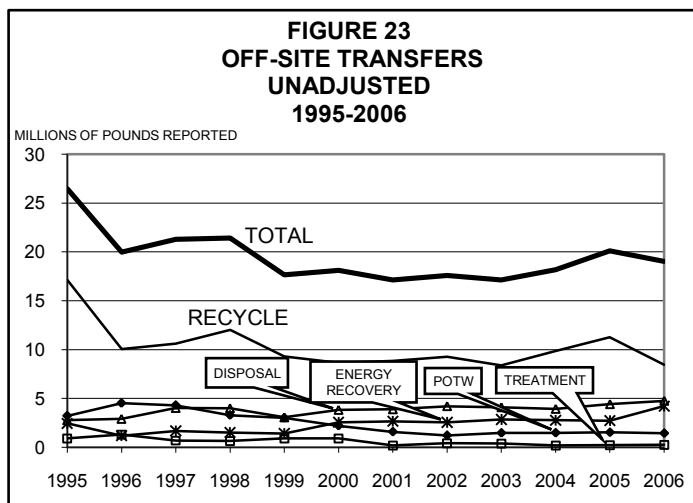
ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS AFTER 1995

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
No. of Facilities	73	69	66	67	68	69	70	60	60	57
No. of Form As	29	30	32	31	31	34	35	30	35	32
No. of Form Rs	237	240	231	241	235	230	242	221	212	238
No. of Chemicals	98	103	98	101	95	97	94	92	93	90
On-site Releases										
Air	2,973,704	4,286,680	3,246,228	3,179,809	3,095,921	2,709,026	2,276,521	2,303,755	1,797,066	1,698,468
Water	1,328,937	1,066,787	1,186,041	826,660	524,281	884,057	904,351	1,207,521	1,193,242	3,995,795
Land	317,243	347,129	278,319	194,448	144,956	117,249	243,873	93,534	8,373	26,289
Total Releases	4,619,884	5,700,596	4,710,588	4,200,917	3,765,159	3,710,331	3,424,745	3,604,811	2,998,681	5,720,552
Off-site Transfers										
POTW's	4,301,090	3,286,189	2,996,375	2,199,732	1,575,639	1,200,858	1,451,686	1,460,708	1,504,209	1,419,962
Recycle	10,544,518	11,963,716	9,295,315	8,613,087	8,833,437	9,217,843	8,357,440	9,067,609	10,228,601	8,289,652
Energy Recovery	1,663,440	1,491,543	1,389,936	2,543,840	2,642,626	2,538,090	2,834,075	2,755,903	2,709,850	4,200,803
Treatment	675,561	611,696	894,822	899,534	172,939	398,571	370,126	179,718	199,481	237,069
Disposal	4,010,594	3,719,902	2,985,340	3,472,927	3,572,487	3,825,837	3,678,483	3,545,566	4,031,903	4,348,020
Total Transfers	21,195,203	21,073,046	17,561,788	17,729,120	16,797,128	17,181,199	16,691,809	17,009,503	18,674,044	18,495,507
On-site Waste Mgmt.										
Recycle	32,996,062	34,549,050	32,671,856	31,188,654	24,133,520	25,033,532	22,404,664	8,772,132	10,079,025	10,593,250
Energy Recovery	19,255,280	16,155,665	22,981,591	29,095,220	25,863,740	15,740,469	16,455,440	23,595,635	19,786,104	17,937,031
Treatment	68,575,887	67,199,660	69,149,944	63,832,520	40,120,809	32,420,206	29,106,061	29,514,410	36,803,615	38,079,851
Total On-site Mgmt.	120,827,229	117,904,375	124,803,391	124,116,394	90,118,069	73,194,206	67,966,165	61,882,177	66,668,744	66,610,132
Total Waste	146,642,316	144,678,017	147,075,767	146,046,431	110,680,356	94,085,737	88,082,719	82,496,491	88,341,469	90,826,191

ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS

SOURCE: DNREC 2005 DATABASE, NOVEMBER 2006

Off-Site Transfers, Unadjusted, 1995-2006



An off-site transfer is a transfer of toxic chemicals in wastes to another facility that is physically separate from the reporting facility and may even be out of state. Chemicals are reported as transferred to an off-site facility when they are transported away from the reporting facility for the purposes of treatment at a publicly owned treatment works (POTW), recycling, disposal, energy recovery, or non-POTW treatment facility. Although the off-site transfers may be of less immediate local concern than on-site releases, the transfers to POTWs, treatment, and disposal still represent toxic chemicals in wastes that must be ultimately accounted for.

As noted on page 10 and in Table 12 on page 45, the amounts reported here as transferred off-site are much greater than the amount of on-site releases. Off-site transfers decreased 5% in 2006, driven by recycling. Disposal and energy recovery partly offset this trend with higher amounts. Figures 23 and 24 show the trends in amounts of TRI chemicals in wastes transferred off-site for all facilities and chemicals reporting since 1995. To

increase clarity, the lower portion (0.0 - 5.0 million pounds) of Figure 23 is expanded in Figure 24. The amount of recycle has been relatively steady from 1999-2003, but increases in 2004 and 2005 were erased with a decrease in 2006. The amounts sent to POTW and non-POTW treatment have shown little change and the amounts sent off-site for energy recovery and disposal have been increasing; energy recovery was driven by a 1.04 million pound increase in toluene from Noramco. For comparison, please look at the corresponding values in Table 12. Significant changes reported for off-site transfer trends in 2006 are:

FACILITY	CHEMICAL	OFF-SITE METHOD	CHANGE (pounds)
Noramco	Toluene	Energy Recovery	+1,044,000
Claymont Steel	Zinc Compounds	Recycle	+454,000
DuPont Edge Moor	Manganese Cpd.	Disposal	+445,000
Premcor	Nickel Compounds	Recycle	-201,000
Occidental Chem.	Mercury	Recycle	-223,000
Premcor	Vanadium Cpd.	Recycle	-887,000
Johnson Controls	Lead Compounds	Recycle	-1,774,000

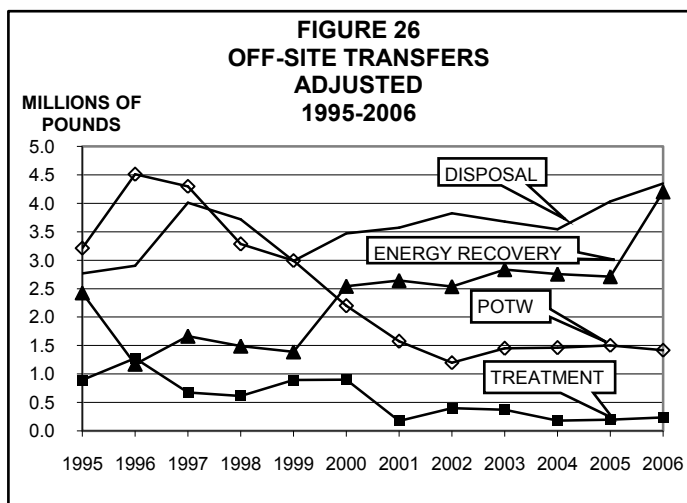
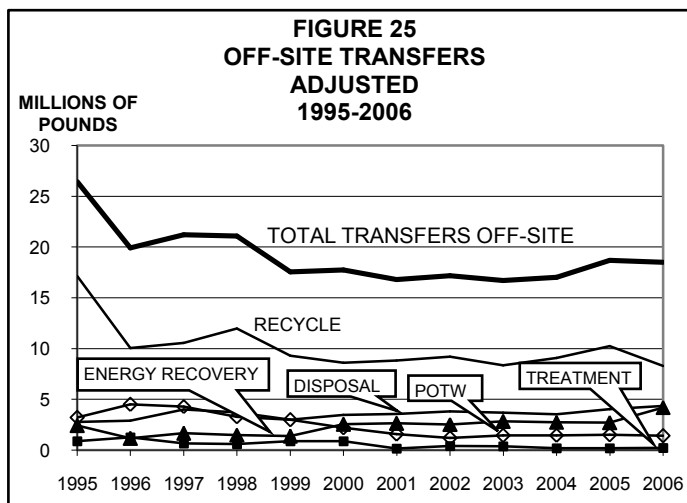
Off-Site Transfers, Adjusted, 1995-2006

Figures 25 and 26 show the trends in amounts of TRI chemicals reported in wastes transferred off-site for facilities and chemicals reporting since 1995. The lower portion of Figure 25 (0.0 - 5.0 million pounds) is expanded in Figure 26. The amount of chemicals reported as transferred off-site since 1999 shows a relatively flat trend through 2006, and the same general trend for unadjusted amounts is noted for the adjusted amounts. For comparison, please look at the corresponding unadjusted trends on page 48 and the amounts in Tables 12-13. As shown in Table 13, about 45% of all off-site transfers are to recycling operations, so the total trend in Figure 25 is strongly influenced by the amounts sent off-site for recycling.

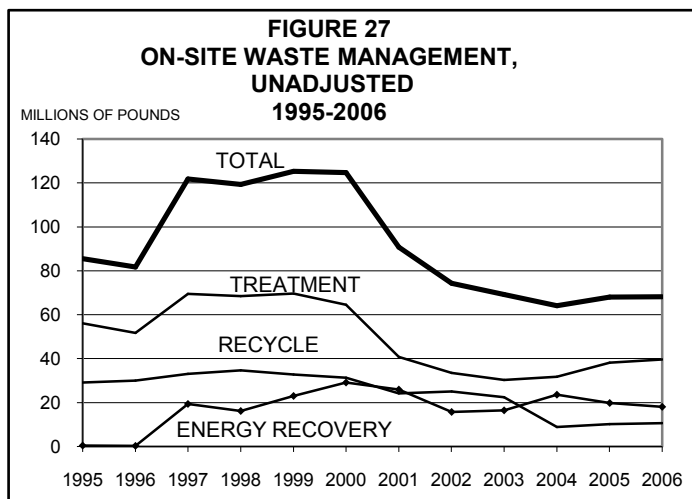
The total adjusted net change in off-site transfers reported in 2006 was a decrease of 1% (-178,537 pounds) since 2005, and the total adjusted trend is lower by 30% (-7.9 million pounds) since 1995. Amounts sent to off-site recycle decreased by 19% (-1,939,000 pounds) in 2006, energy recovery reported an increase of 55% (1,774,000 pounds), and disposal increased 7.8% (316,000 pounds). Reported amounts sent off-site to POTWs and non-POTW treatment showed smaller changes.

Unlike on-site releases where the amount of adjustment was 49% of the total because of the large reported on-site releases to air by the new facilities, (see Figure 22 on page 46) off-site transfers are largely reported by original facilities, and the adjustment contributed by new facilities was only 3% of the total amount for 2006. Significant portions of the adjusted amount, 131,000 pounds, was the reported off-site transfer for recycling of vanadium compounds in ash from the Premcor refinery and 124,000 pounds of barium compounds to disposal from the Edge Moor/Hay Road Power Plant. Although Premcor is not a new facility, vanadium compounds was newly listed in 2000. The power plants, of course, are new facilities, starting to report in 1998. Over 200,000 pounds of other metallic compounds reported by the Edge Moor/Hay Road Power Plant were also excluded from the adjusted total.

The total changes in off-site transfers were balanced by other smaller increases and decreases from other reports at other facilities.



On-Site Waste Management, Unadjusted, 1995-2006



In some facilities, wastes are managed on-site instead of being sent off-site for processing or disposal. On-site waste management is the processing of chemicals in wastes that do not leave the site of the reporting facility. When chemicals are recycled, recovered for energy, or treated at the facility, they are reported as managed on-site. Although these amounts represent a loss of finished product to the facility as waste, they are not as much of a threat to the environment as the other on-site categories since these amounts are treated or recycled and not disposed of or released on-site.

There is, of course, the risk that these chemicals may be released accidentally on-site to the environment during the waste management process. Figure 27 shows the trends for the on-site waste management activities since 1995. The increase in 1997 was due to two reports from Premcor: The first was an increase of 16,000,000 pounds for on-site treatment of methanol, and the second was an increase of 17,000,000 pounds for on-site energy recovery of ammonia. The decrease in 2001 was due to a decrease of 7,500,000 pounds in formaldehyde energy recovery, a decrease of 2,100,000 pounds in methanol treatment, and a decrease of 8,000,000 pounds in MTBE treatment at Premcor, and a decrease of 8,000,000 pounds in hydrochloric acid treatment at DuPont Edge Moor.

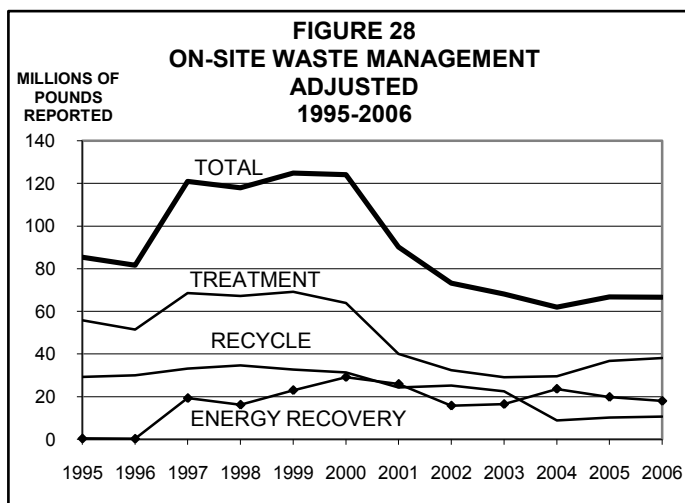
Some significant changes reported in on-site waste management amounts for 2006 are:

FACILITY	CHEMICAL	ON-SITE WASTE MANAGEMENT METHOD	AMOUNT OF CHANGE (pounds)
DuPont Edge Moor	Hydrochloric acid	Treatment	+1,775,000
Rohm & Haas	N,n-dimethylformamide	Recycle	+1,092,000
Premcor	Carbonyl sulfide	Energy recovery & treatment	+1,054,000
Premcor	Ethylene	Treatment	+576,000
Noramco	Toluene	Recycle	-772,000
Occidental Chem.	Chlorine	Treatment	-1,194,000
Premcor	Sodium Nitrite	Treatment	-1,459,000
Premcor	Ammonia	Energy recovery	-2,099,000

These changes were balanced by other smaller increases and decreases from other reports. Total unadjusted pounds for on-site waste management were almost unchanged since 2005, but have decreased 20% since 1995. The unadjusted on-site waste management amount totals are in Table 12 on page 45.

On-Site Waste Management, Adjusted, 1995-2006

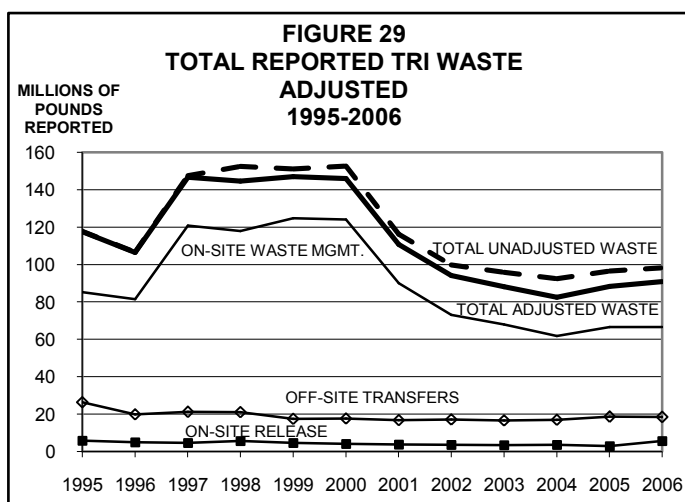
The reported trends for the three categories of on-site management and their total are shown in Figure 28 and the amounts in Table 13 on page 47. The total amount of waste managed on-site in 2006 was down 59,000 pounds (0.1%) from 2005. Recycle amounts increased 514,000 pounds, treatment increased 1,276,000 pounds, while energy recovery decreased 1,849,000 pounds. Since 1995, on-site waste management amounts have decreased 22% (18.6 million pounds). Although energy recovery amounts increased by 17.6 million pounds since 1995, recycle amounts decreased by 18.5 million pounds and treatment also decreased by 17.7 million pounds.



As with off-site transfers, the adjustment for reporting requirements for on-site waste management activities is small, 1.4 million pounds out of the 67 million pounds reported, or about 2% of the total. Almost all of this adjustment is from the new electric generating facilities for on-site treatment of products of combustion or pollution control emissions. Because of this small adjustment, Figures 27 and 28 are almost identical. For comparison, please look at the corresponding unadjusted and adjusted values in Tables 12 and 13 on pages 45 and 47.

Total Waste, Adjusted, 1995-2006

Figure 29 shows the adjusted totals and their grand total for the three waste categories taken from Figures 22, 25, and 28. This total reported waste amount is largely driven by on-site waste management, which makes up 69% of total TRI waste. Pounds for total reported TRI waste increased by 2.8% (2.5 million pounds) since 2005 but are down 23% (26.7 million pounds) since 1995.



Unadjusted individual amounts for 2006, not shown in Figure 29, are higher than the corresponding adjusted amounts, particularly for on-site air releases (4.6 million pounds). The total adjusted TRI waste amount shown above is lower than the corresponding unadjusted amount by 7.4 million pounds. For comparison, look at the corresponding values in Tables 12 and 13, pages 45-47. Explanation for some of the changes in 1997 and 2001 are in the text at the top of page 50.

Adjusted Trend, 1998-2006

The second set of adjusted trends is for the 1998-2006 period. The new industry segments added in 1998 that were excluded in the 1995-2006 trends are included here. What are excluded in these adjusted trends are the PBT reports and other chemicals that were added or had reporting thresholds reduced in 2000-2001. However, the amount of these adjustments is small, with adjustments in more than half of the excluded reports for on-site releases being zero and all adjustments less than 1% of total on-site releases. Because the facilities added in 1998 are included here, the totals for the adjusted amounts in Table 14 on the next page are higher than those in Table 13 on page 47. For comparison, look at the corresponding unadjusted values for on-site releases and waste management on pages 44, 48, and 50.

On-Site Release, Adjusted, 1998-2006

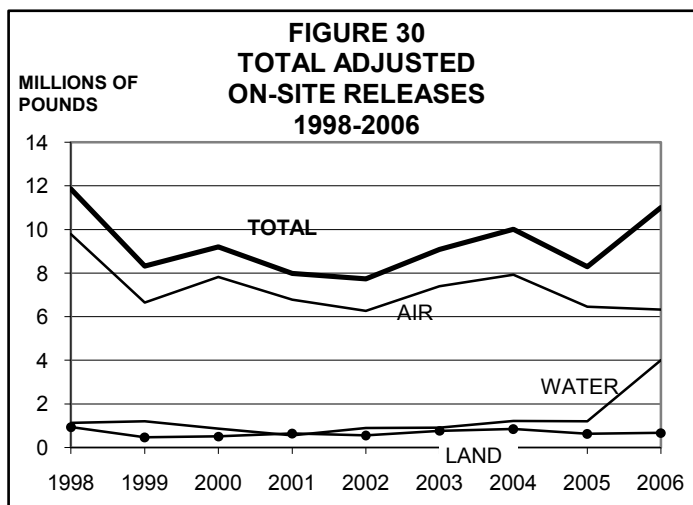


Figure 30 shows the trend for reported on-site releases adjusted for new facilities and their chemicals added after 1998. The amount of adjustment is a relatively small 164,000 pounds, mostly releases to land from newly listed vanadium and lead compounds at electric generating facilities. As in the other trends, the total is generally influenced by the reported releases to air, except for the nitrate compounds released to water from Premcor for 2006. Similar to the unadjusted on-site trend (Figure 21 on page 44), the adjusted trend here for 1998-2006 is also up, primarily because of the

above report.

There was an increase of 2,715,000 pounds (33%) in total reported on-site releases for this group in 2006, but there has been a net decrease of 845,000 pounds (7%) in reported on-site releases over the 1998-2006 time period. In addition to the notes in the facility profiles on pages 16-35 and the tables on pages 45 and 47 about how on-site waste releases have changed this year, reports of significant changes for facilities and/or chemicals added in 1998 and reporting in 2006 are:

FACILITY	CHEMICAL	MEDIA	CHANGE (POUNDS)
NRG Dover	Hydrochloric acid	Air	+68,000
Indian River Power Plant	Ammonia	Air	+44,000
Edge Moor/Hay Road Power Plants	Ammonia	Air	+21,000
Indian River Power Plant	Hydrogen Fluoride	Air	-10,000
Indian River Power Plant	Sulfuric Acid	Air	-10,000
Edge Moor/Hay Road Power Plants	Sulfuric acid	Air	-61,000

Other facilities reported smaller amounts of increases and decreases to produce the net decrease of 2,715,000 pounds for 2006.

TABLE 14
1998-2005 TRI DATA SUMMARY
(IN POUNDS)

ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS AFTER 1998

	1998	1999	2000	2001	2002	2003	2004	2005	2006
No. of Facilities	79	76	80	80	76	78	69	67	65
No. of Form As	70	72	61	57	55	55	52	53	39
No. of Form Rs	271	254	278	283	257	268	253	239	224
No. of Chemicals	105	101	102	99	98	95	94	95	92
On-site Releases									
Air	9,787,574	6,651,166	7,827,472	6,779,996	6,271,189	7,396,828	7,926,683	6,462,563	6,335,858
Water	1,126,527	1,197,861	864,760	558,611	900,317	912,493	1,223,242	1,202,793	4,006,920
Land	937,708	462,579	500,395	636,925	556,219	765,842	853,571	626,373	664,289
Total On-site Releases	11,851,809	8,311,606	9,192,627	7,975,532	7,727,724	9,075,163	10,003,496	8,291,729	11,007,068
Off-site Transfers									
POTW's	3,286,297	2,996,401	2,199,804	1,575,700	1,201,157	1,452,231	1,466,458	1,514,235	1,421,318
Recycle	11,963,926	9,295,315	8,649,611	8,578,821	8,964,241	8,117,271	9,421,700	10,235,584	8,289,652
Energy Recovery	1,491,543	1,389,936	2,543,840	2,642,626	2,538,090	2,834,075	2,755,903	2,709,850	4,200,803
Treatment	611,996	894,822	900,353	172,939	398,571	370,126	179,968	199,481	237,069
Disposal	3,983,506	3,056,466	3,712,460	3,775,364	4,070,123	3,955,520	3,815,383	4,259,498	4,606,906
Total Off-site Transfers	21,337,268	17,632,940	18,006,068	16,745,450	17,172,182	16,729,223	17,639,411	18,918,648	18,755,749
On-site Waste Mgmt.									
Recycle	34,549,050	32,671,856	31,188,654	24,133,520	25,033,532	22,404,664	8,772,132	10,079,025	10,593,250
Energy Recovery	16,155,665	22,981,591	29,095,220	25,863,740	15,740,469	16,455,440	23,595,635	19,786,104	17,937,031
Treatment	68,126,327	69,501,151	64,403,879	40,733,844	33,392,400	30,305,396	31,654,035	38,176,580	39,515,646
Total On-site Mgmt.	118,831,042	125,154,598	124,687,753	90,731,104	74,166,400	69,165,500	64,021,802	68,041,709	68,045,927
Total Waste	152,020,119	151,099,144	151,886,448	115,452,086	99,066,307	94,969,886	91,664,710	95,252,086	97,808,744

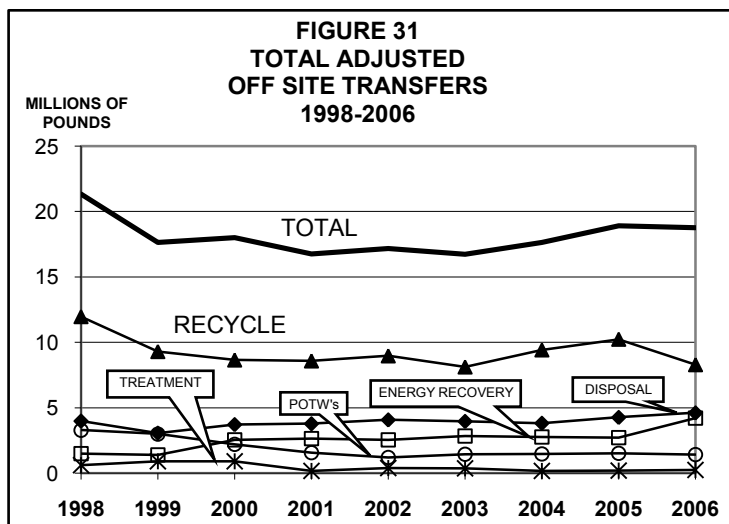
ADJUSTED FOR CHANGES IN REPORTING REQUIREMENTS

SOURCE: DNREC 2006 DATABASE, NOVEMBER 2007

Off-Site Transfers, Adjusted, 1998-2006

The adjusted off-site transfer total reported amount decreased 0.9% (163,000 pounds) in 2006. Table 14 and Figure 31 show the amounts transferred off-site, adjusted for the new

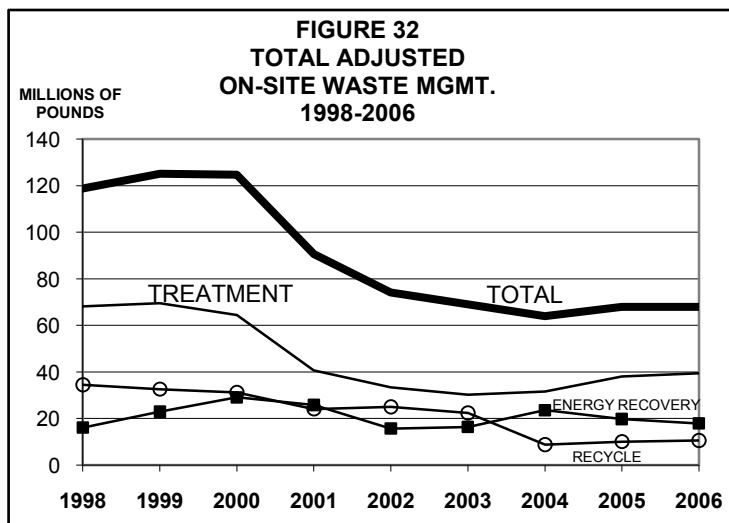
reporting requirements starting in 1998. Off-site transfers have also decreased 12% since 1998, largely influenced by the amounts sent off-site for recycling. The decrease in 2006 was primarily because of the decreases in the amounts in the reports shown in the table at the bottom of page 48. There are no significant facility notes, in addition to the previous notes in the facility profiles or on pages 48-49 for off-site transfers, for this time period.



On-Site Waste Management, Adjusted, 1998-2006

The trend of on-site management of TRI chemicals in waste shows a stabilizing trend in Figure 32, up 4,200 pounds (0.01%) in 2006, virtually mirroring the unadjusted trend. Only

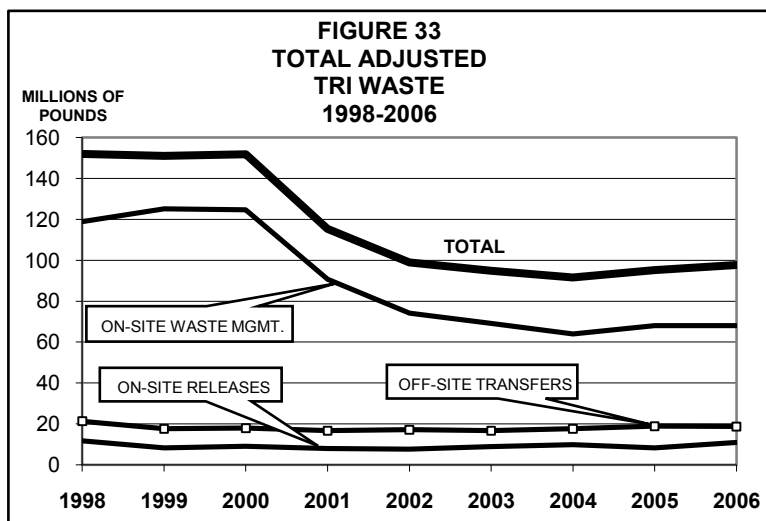
1,765 pounds were adjusted out for new chemicals added since 1998 in this trend. That was for lead recycled on-site at Dentsply and benzo(g,h,i)perylene treated at Premcor. There are no additional significant notes for the new facilities added in 1998 in addition to the previous 1995-2006 facility notes for on-site waste management on pages 50-51.



Total Reported TRI Waste, Adjusted, 1998-2006

Figure 33 shows the sum of reported On-site Releases, Off-Site Transfers, and On-site Waste Management adjusted for reporting in 1998-2006, and their grand total. The 2005-2006 total trend is up by 2.6 million pounds, (2.7%). The 1998-2006 total trend is down by 54 million pounds (36%), largely influenced by the trend of On-Site Waste Management.

For comparison, please look at the corresponding values in Tables 12 and 14, pages 45 and 53. Explanations for some of the changes that happened in 2001 are in the text at the top of page 50.



Receiving TRI Chemicals in Wastes

When a facility transfers TRI chemical waste off-site, these wastes go to a receiving facility. Table 15 shows the total amounts of TRI chemicals reported as sent to Delaware facilities from other facilities, both in-state and out-of-state. Few of the receiving facilities in Delaware report to the TRI program as well, but most do not, based on the reporting requirements shown on pages 2 and 3. Only 1.7% of the TRI chemical wastes transferred to Delaware facilities were transferred to a TRI facility in 2006. DNREC does not receive reports from any out-of-state facilities that transfer wastes into Delaware. This data was obtained from the U.S. EPA.

TABLE 15
SUMMARY OF REPORTED TRI TRANSFERS
TO DELAWARE FACILITIES
FROM OTHER TRI FACILITIES IN 2006

(IN POUNDS)

DELAWARE RECEIVING FACILITY	TOTAL TRANSFERS TO DELAWARE FROM DELAWARE FACILITIES	TOTAL TRANSFERS TO DELAWARE FROM OUT OF STATE FACILITIES	TOTAL TRANSFERS RECEIVED BY DELAWARE FACILITIES
ASHWORKS DELAWARE CONCRETE PUMP SALES	0	231	231
CLEAN EARTH OF NEW CASTLE	0	855	855
DELAWARE RECYCLABLE PRODUCTS	56	0	56
DELAWARE SOLID WASTE AUTHORITY CHERRY ISLAND	10,519	0	10,519
DELAWARE SOLID WASTE AUTHORITY GEORGETOWN	0.1	0.0	0.1
DELAWARE SOLID WASTE AUTHORITY SANDTOWN	1	0	1
DUPONT EXPERIMENTAL STATION	0	200,870	200,870
FIRST STATE RECYCLING	0	156	156
INDUSTRIAL RESOURCE NETWORK, INC.	0	652	652
INTERNATIONAL PETROLEUM CORP.	0	5,616	5,616
KROEGERS SALVAGE	0	1	1
SIEMENS	0	55	55
SOUTHERN METAL PROCESSING	2,100	0	2,100
TILCON DELAWARE INC.	38	0	38
UNIQEMA INC. *	4,504	0	4,504
VFL TECHNOLOGY CORPORATION	376	24,980	25,356
WILMINGTON WASTEWATER TREATMENT PLANT	1,421,317	11,745	1,433,062
TOTAL TRI TRANSFERS REPORTED	1,438,911	245,162	1,684,073

Source: U.S. EPA 2006 Data Run, November 1, 2007

* TRI Reporting Facility

The top receiving facility is the Wilmington Wastewater Treatment Plant, receiving TRI chemicals in wastewater. The DuPont Experimental Station received the second highest amount a variety of chemicals for incineration from another out-of-state DuPont facility. VFL Technology Corporation received the third largest amount of TRI chemicals, mostly metallic compounds from a New Jersey power plant, and the Delaware Solid Waste Authority at Cherry Island received the fourth largest amount from two Delaware TRI-reporting industrial customers in the region. These four receiving facilities accounted for over 99% of all TRI chemicals received from in-state and out-of-state TRI facilities.

Pollution Prevention/Reduction Programs in Delaware

The Delaware Pollution Prevention Program in the Department of Natural Resources and Environmental Control (DNREC) facilitates the implementation of pollution prevention by industry, government and society. The Pollution Prevention Program (P2 Program) serves a non-regulatory function to provide information, technical assistance, training, and leadership on issues related to reducing and eliminating the generation of wastes and pollutants. The early years of the P2 Program concentrated on industry and its wastes. In recent years, the program has assisted all aspects of Delaware's society, including expanded efforts to schools, environmental, commercial and service organizations, and to State government itself.

Data for TRI reportable chemicals and other chemicals is becoming increasingly more available to the public. This public awareness has focused attention on the existence and quantity of these chemicals and on their management and possible reduction. Although EPCRA does not require a facility to reduce releases of chemicals reportable under its programs, many companies and facilities are aware of the public availability of the data in this and other EPCRA reports and have implemented programs to reduce or eliminate releases of these chemicals. These programs may take the form of efficiency improvements, reuse, recycling, energy recovery, or material substitutions. The benefits of these programs are reduced raw material and waste disposal costs and reduced risks associated with the toxic chemicals. Also, these reductions demonstrate corporate responsibility to the facility neighbors and improve the corporate image with the public.

There are numerous programs within DNREC that impact the management of TRI chemicals through the issuance of permits or through other regulatory and non-regulatory activities. Most releases reported under TRI are also regulated through air emission, water discharge, and/or land disposal permits. Potential sources of toxics undergo technical reviews through which potential threats to the environment and to human health are reviewed and identified prior to issuance of a permit. For example, the Engineering and Compliance Branch in the Air Quality Management Section enforces a provision in the Clean Air Act Amendment of 1990 that targets the control of hazardous air pollutants (HAPs). Nearly all HAPs are also reportable TRI chemicals. In addition, the Engineering and Compliance staff monitors TRI data to assess whether a facility complies with its Air Permits for TRI chemicals. Another example is the work performed by the Accidental Release Prevention (ARP) program. The ARP staff uses the TRI data to detect possible deficiencies at a facility that might result in an increased probability of an accidental release.

The Solid and Hazardous Waste Management Branch uses the TRI report to measure reductions of releases for the Waste Minimization Priority Chemicals list. The list is a result of EPA's Waste Minimization Program and has measurable goals that Delaware is working to attain. The DNREC Pollution Prevention (P2) Program offers consultations to any generator of hazardous waste that requests it. The consultation is non-regulatory and non-enforcement in nature, and is aimed at helping the company to reduce any and all waste streams, including the priority chemicals.

During 2007, DNREC's Air Quality Management Section monitored ambient air quality at nine locations around the State. For more information, please refer to the "For Further Information" section under the 2005 Delaware Air Quality Report on page 63 of this report.

DNREC has developed a new Regulation (Regulation 1146) that will reduce air emissions from Delaware's coal and residual oil-fired power plants. The reason for the new regulation is to protect public health, safety, and welfare from pollutants which include nitrogen oxides

(NO_x), sulfur oxides (SO_x), and mercury. A review committee made up of DNREC personnel, persons with environmental interests, persons impacted by the emissions from power plants, and power plant owners and operators assisted with the development of the regulation. The reduction in NO_x, SO₂, and mercury emissions will:

1. Reduce the impact of those emissions on public health;
2. Aid in Delaware's attainment of the State and National Ambient Air Quality Standard (NAAQS) for ground level ozone and fine particulate matter;
3. Help address local scale fine particulate and mercury problems attributable to coal and residual oil-fired electric generating units,
4. Satisfy Delaware's obligations under the Clean Air Mercury Rule (CAMR), and
5. Improve visibility and help satisfy Delaware's EGU-related regional haze obligations.

NATIONAL PERSPECTIVE

The national 2006 TRI report has not been released by the U.S. EPA as of the writing of this report. However, placing the 2006 Delaware reports alongside the 2005 EPA reports yields some rankings that provide a perspective for Delaware in the national TRI picture. Changes in the 2006 national values may change these rankings.

This data shows that Delaware ranks 40th in the nation in total on-site releases by state for all TRI chemicals. This is 0.29% of the total on-site release amounts nationwide. Releases can also be based on other criteria. Because Delaware has a small population and area, releases are spread over fewer people and smaller area, increasing the ranking on a per-person and per-square mile basis.

State	Rank	Total On-Site Release (Pounds)	Rank, Based on Release Per Person	Rank, Based on Release Per Square mile
Alaska	1	548,412,055	1	23
Nevada	2	323,765,205	2	7
Texas	3	237,987,450	24	22
Delaware	40	11,171,515	22	4

The reported totals for fourteen states were each over 100 million pounds in 2005.

For on-site releases, 54 facilities in the nation each released more individually than all the facilities in Delaware combined.

Facility, State	Rank	Total On-Site Release (Pounds)
Red Dog Operations, Alaska	1	498,744,185
Kennecott Copper Mine, Utah	2	96,991,889
Newmont Mining, Nevada	3	80,938,871
All Facilities Combined, Delaware	55	11,171,515

Twenty-one facilities each reported over 20 million pounds released on site in 2005.

For on-site release of **dioxins***, Delaware ranked 32nd in the nation.

State	Rank	Total On-Site Release (Grams)
Mississippi	1	16,891.27
Texas	2	10,895.50
Michigan	3	9,918.64
Delaware	32	12.63

The reported totals for each of fourteen states were over 100 grams released on-site in 2005.

*See page 22 for note on "Dioxins". The amounts reported do not differentiate between the highly toxic and the less toxic dioxins and dioxin-like compounds in this chemical group.

Thirty seven facilities each released more **dioxins* on-site** than all the facilities in Delaware combined. No individual Delaware facilities were in the top 100 for **on-site releases** of dioxins.

Facility, State	Rank	Total On-Site Release (Grams)
DuPont Delisle Plant, Mississippi	1	16,510.36
Dow Chemical, Brazoria, Texas	2	10,650.00
Dow Chemical, Midland, Michigan	3	9,902.41
All Facilities Combined, Delaware	38	12.63

Eighteen facilities each reported over 50 grams of **dioxins*** released on site in 2005.

*See page 22 for a note on “Dioxins”. Delaware ranks #1 for **total production** of Dioxins. Almost this entire amount was transferred off-site to a permitted out-of-state landfill.

State	Rank	Production - Grams	Off-Site Transfer - Grams	On-Site Release or Disposal - Grams (Rank)
Delaware	1	28,535	28,522	13 (32)
Texas	2	20,813	9,917	10,896 (2)
Mississippi	3	16,894	3.2	16,891 (1)
Michigan	4	10,070	151	9,919 (3)

Some facilities in Delaware do rank near the top of the national rankings for specific releases. DuPont Edge Moor ranks #1 in the nation for off-site transfer of dioxin and dioxin-like compounds, and Claymont Steel ranks #46 for on-site release of dioxins. Premcor ranks #2 nationally for all on-site releases for petroleum facilities (SIC 2911 or NAICS 324110), #22 for all U.S. facilities in release of nitrate compounds, and #43 for all U.S. facilities for release of cyanide compounds. Formosa Plastics ranks #5 in the nation for on-site release of vinyl chloride and #14 for on-site release of vinyl acetate.

Although no Delaware facility is in the top 100 for on-site release of mercury compounds, Occidental Chemical ranks #5 in the nation for total off-site disposal of elemental mercury and #75 for mercury on-site release (down from #11 for 2005). Occidental Chemical closed their mercury-related chlor-alkali operation as of November, 2005 so no further TRI mercury reports are expected from this facility, as remediation activities fall outside the “manufacture, process, or otherwise use” definition for TRI reporting requirements. The State of Delaware ranks #41 within the states for on-site release of mercury for 2006. The Indian River Power Plant ranks #60 and the Edge Moor/Hay Road power plant ranks #99 for on-site release of hydrochloric acid. Delaware is ranked #22 within the state rankings for on-site release of hydrochloric acid. DaimlerChrysler ranks #65 for on-site release certain glycol ethers, and General Motors ranks #87 for on-site release on Xylene. The Indian River Power Plant ranks #86 within the coal and oil-fired electric generating facilities group (SIC 4911, 4931, and 4939, or NAICS 221112) for total on-site release of all TRI chemicals.

Again, these comparisons are made using the 2006 Delaware TRI data and the 2005 National TRI data, so changes in the 2006 national amounts may change these rankings.

Nearby Facilities in Adjacent States

Some facilities not in Delaware may be important to the environment in Delaware. These facilities are located near the border with another state and may release TRI chemicals, particularly to the air or water, which may migrate into Delaware. Starting on the next page is a listing of some nearby facilities with significant TRI release amounts. This data is from the TRI Explorer database using the 2005 reporting year data.

Nearby Facilities in Adjacent States

Facility	State	Chemical	Media	Amount (Pounds)
DuPont Chambers Works, Deepwater	New Jersey	Nitrate compounds	Water	3,790,000 *
DuPont Chambers Works, Deepwater	New Jersey	Ammonia	Air	181,700 *
DuPont Chambers Works, Deepwater	New Jersey	R-115	Air	143,200 ‡
DuPont Chambers Works, Deepwater	New Jersey	Hydrochloric acid	Air	93,800
B.L. England Power Plant, Cape May	New Jersey	Hydrochloric acid	Air	267,000
B.L. England Power Plant, Cape May	New Jersey	Sulfuric acid	Air	95,700
B.L. England Power Plant, Cape May	New Jersey	Hydrofluoric acid/ Hydrogen fluoride	Air	56,700
Conectiv Power Plant, Deepwater	New Jersey	Hydrochloric acid	Air	224,300
Conoco Phillips Refinery, Marcus Hook	Pennsylvania	Nitrate compounds	Water	216,400
Conoco Phillips Refinery, Marcus Hook	Pennsylvania	Hydrochloric acid	Air	104,300
Eddystone Power Plant, Chester	Pennsylvania	Sulfuric acid	Air	385,000
Eddystone Power Plant, Chester	Pennsylvania	Hydrochloric acid	Air	93,700
Eddystone Power Plant, Chester	Pennsylvania	Ammonia	Air	71,800
Sunoco, Marcus Hook	Pennsylvania	Propylene	Air	102,600 **
Sunoco, Marcus Hook	Pennsylvania	Ammonia	Air	72,900
Sunoco, Marcus Hook	Pennsylvania	Toluene	Air	50,200 **
Sunoco, Marcus Hook	Pennsylvania	Benzene	Air	37,900 **
Sunoco, Philadelphia	Pennsylvania	Benzene	Air	63,400 **
Sunoco, Philadelphia	Pennsylvania	Cumene	Air	57,200 **
Kimberley Clark, Chester	Pennsylvania	Hydrochloric acid	Air	123,300

* Near the Delaware total for this chemical

** Exceeds the Delaware total for this chemical

‡ Chemical not reported in Delaware

Additional facilities in nearby states are:

Table continues on next page

Facility	State	Chemical	Media	Amount (Pounds)
Perdue Feed Mill, Salisbury	Maryland	N-hexane	Air	175,000 **
Plymouth Tube, Salisbury	Maryland	Trichloroethylene	Air	80,600 **
U.S. Marine/Brunswick Boat, Salisbury	Maryland	Styrene	Air	58,300 **

** Exceeds the Delaware total for this chemical

Note that the amount of the individual chemical reported released on-site by some facilities exceed, or is near to, the entire amount reported by all facilities in Delaware for that chemical.

As noted on page 4 with Delaware facilities, these amounts do not indicate the amount of human exposure. They do provide a comparison between Delaware and some TRI chemicals released by some nearby facilities in neighboring states.

International “TRI”

The United State's Toxics Release Inventory (TRI) is one of several similar programs established, or being established, by countries around the world. The term used internationally for these TRI-like systems is Pollutant Release and Transfer Register (PRTR). A multi-stakeholder group from Canada, the United States and Mexico designed a user-friendly brochure that describes a PRTR, its benefits and uses. The brochure is available in English and in Spanish.

Each government that develops a PRTR often expands on these basic elements. The U.S. TRI, for example, provides the public with data for on-site waste management of chemicals. The Japanese PRTR, for which facilities reported for the first time in 2001, includes data on diffuse sources (e.g., automobiles). The Canadian PRTR, called the National Pollutant Release Inventory (NPRI) collects data on the number of employees at each facility. Mexico has designed a national PRTR, but it is voluntary. Thus, few facilities have submitted PRTR reports. However, at a meeting with his counterparts from Canada and the U.S., the Mexican environment minister has committed to introducing legislation to make the Mexican PRTR mandatory. Since that meeting, the Mexican Congress has passed the legislation. Next steps for the Mexican government include developing the regulations to implement the mandatory PRTR.

In North America, the governments of the U.S., Canada and Mexico are working together to improve the ability to compare data from their three PRTR systems. This work is coordinated by the North American Commission for Environmental Cooperation (CEC), an organization created with the North American Free Trade Association (NAFTA). The NACEC's work includes helping Mexico establish a PRTR comparable to the U.S. and Canadian PRTRs, publishing an annual report titled *Taking Stock* that compiles and compares the PRTR data, and operating a searchable website of comparable North American PRTR data.

FOR FURTHER INFORMATION

Access to the TRI Files - DNREC is responsible for collecting, processing, and distributing information submitted by Delaware facilities under the TRI program. This 2006 TRI report may be viewed at: <http://www.serc.delaware.gov/reports.shtml>. Additional information not contained in this report is available to the public through the EPCRA Reporting Program located within DNREC. A second, less technical data summary is available at the same location. A searchable database is located at: <http://www.serc.delaware.gov/services/search/index.shtml>.

The reports submitted by facilities are available for review through the Freedom of Information Act (FOIA) process from DNREC's EPCRA Reporting Program located at 156 South State Street in Dover. Custom reports can also be generated from the database. For information on placing a request, call the TRI Coordinator at (302) 739-9405 during business hours. An on-line FOIA application is also available at: http://www.dnrec.state.de.us/air/aqm_page/foia.htm.

Chemical Data Fact Sheets - A two-page fact sheet is available for most TRI chemicals reported in Delaware and contains information on chemical characteristics, health hazards, and ecological effects. These fact sheets were prepared by the EPCRA Reporting Program from information obtained through EPA's more lengthy TRI chemical fact sheets. The two-page fact sheets are available upon request. Additional TRI chemical information is available at: www.epa.gov/triinter/chemical/index.htm.

EPA's TRI Home Page - The TRI home page provides information on the many facets of the TRI program at EPA, including an Executive Summary, Q&A's, a link now to the 2005 TRI data, and later this year to 2006 data, a current list of reportable chemicals, reporting forms, state and federal program contacts, and various guidance documents available for downloading. This website has many links to other EPA and non-EPA sites associated with TRI: www.epa.gov/tri/.

Toxics Release Inventory Public Data Release - EPA's annual TRI report. It covers information nationwide and provides a good perspective on how Delaware compares to other states: www.epa.gov/tri/tridata/index.htm. The 2006 edition of this report will be available early 2008 and will be available for review at the DNREC office at 156 South State Street in Dover. It can also be obtained by calling the federal EPCRA Information Hotline at 1-800-424-9346.

Envirofacts Electronic Warehouse - Envirofacts is an EPA-developed website that provides public access to multiple environmental databases, including TRI. Links are available to data about hazardous waste, water permits, drinking water, Superfund sites, air, water, toxics, and more. On-line queries allow the user to retrieve data and create reports, as well as generate maps: www.epa.gov/enviro.

Right-to-know Network (RTK NET) - Searchable nationwide TRI data is available through RTK NET. RTK NET was established by two non-profit organizations to provide access to TRI and chemical data, link TRI with other environmental data, and exchange information among public interest groups: www.rtk.net.

Delaware Public Health Cancer Rates and Causes - This site provides data and answers to many cancer-related questions: <http://www.state.de.us/dhss/dph/dpc/cancer.html>.

The Office of Pollution Prevention & Toxics is a part of the EPA that:

- Promotes pollution prevention as the guiding principle for controlling industrial pollution;
- Promotes safer chemicals through a combination of regulatory and voluntary efforts;
- Promotes risk reduction so as to minimize exposure to existing substances such as lead, asbestos, dioxin, and polychlorinated biphenyls; and,
- Promotes public understanding of risks by providing understandable, accessible and complete information on chemical risks to the broadest audience possible.

It is also a link to *Risk-Screening Environmental Indicators*. This model was developed by EPA's Office of Pollution Prevention & Toxics as a risk-screening tool that provides a relative comparison of TRI releases. This application is available on CD-ROM or through the Internet. Both of these are available through: www.epa.gov/opptintr.

Delaware's Pollution Prevention Program can be accessed at:

<http://www.dnrec.state.de.us/dnrec2000/pollutionprevention.asp>.

Environmental Defense Fund Scorecard - The EDF Scorecard combines scientific, geographic, technical, and legal information from many databases (with emphasis on TRI) to enable users to produce detailed local reports on toxic chemical pollution. Chemical profiles and a map generator are also available through the Scorecard: www.scorecard.org.

Delaware Air Quality Report - The annual air quality report is prepared by the Air Surveillance Branch in the Air Quality Management Section of DNREC. This report presents data gathered from a statewide network of air monitoring stations, and includes analyses, trends, and other information regarding Delaware's ambient air quality. For a copy of the report, or for more information, please call (302) 323-4542. This report is available on-line at: www.dnrec.state.de.us/air/aqm_page/reports.htm. The EPA site for additional air quality information is: <http://www.epa.gov/oar/oaqps/publicat.html>.

Delaware's Department of Natural Resources and Environmental Control has a variety of environmental information, publications, and reports available at: www.dnrec.state.de.us/dnrec2000/Elibrary.asp.

In addition to TRI, there are other provisions of the Emergency Planning and Community Right to Know Act (EPCRA), which provide information to the public as well as to local emergency planning and response organizations. Delaware has its own EPCRA statute which established these provisions under State law. For additional information, visit the Delaware EPCRA website at: <http://www.serc.delaware.gov/epcra.shtml>.

Questions or comments regarding the TRI program are welcome. Please direct questions, comments, or requests to:

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